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PS1 An Architectural History of the Pacific Basin?
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Crossroad of Cultures: Pacific Basin Influence in Seattle

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In *Modern Architecture Since 1900* and in several essays, historian William J. R. Curtis has written of "the complexity of a dissemination that gained momentum in the 1930s" as the modern movement began to spread globally, and has noted that too often a primary focus on the modernism of the northeastern United States has made a casualty of other developments. The extraordinary "complexity of dissemination" in the Pacific Basin, as well as continually changing patterns of influence over several decades, can be seen in developments in Seattle from the 1930s to the 1970s.

As in California, early sources of an emerging regional modernism were the local Arts & Crafts Movement and interest in Asian design. However, by the late 1930s, these influences were overlaid in Seattle by awareness of the new modern art and architecture of Mexico (work that was "regional" in that it was simultaneously modern and Mexican), and by knowledge of the West Coast work of William Wurster, John Yeon and Pietro Belluschi. Then, by the late 1940s, attention in Seattle began to shift as architects such as Lionel Pries designed modern houses incorporating shoji screens and (occasionally) other Japanese artifacts. In the mid 1950s, the traditional residential architecture of Japan was routinely cited by Pacific Northwest regional modernists as a reference for their work. By the early 1960s Seattle architects and landscape architects began to travel to Japan; their visits produced a much deeper understanding based in experience of a wider array of places, and in turn this shaped surprisingly varied local developments from Rich Haag's ideas of "non-striving" design to Victor Steinbrueck's increasing interest in Pike Place Market. This paper seeks to untangle the array of Pacific Basin influences that helped shape the sequence of mid-twentieth century design in Seattle.

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Chicago Architecture on the Pacific Rim, 1900-1925

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The various regional architectures of the Pacific Rim, which emerged after World War II, were prefigured in the early decades of the twentieth century by the projection of progressive ideas from Chicago. Wright in California and Japan, the Griffins in Australia, Lippincott in New Zealand, and a number of Chicago firms in China extended the Midwest regionalism of the ‘Sullivan School' into landscapes and cultures far removed from its original milieu.

The paper explores the extent to which ‘the Pacific' was an imaginative realm linking these ventures - its vastness, diversity and sense of potential in tune with Chicago ambitions, its commercial prospects linked to American enterprise, its array of socio-political conditions aligned with Progressive Era notions of reform, and its ‘otherness' to European traditions created sites of opportunity both modern and anti-modern. The latter, in the sense defined by cultural historian T. Jackson Lears is the key: "a recoil from an ‘overcivilized' modern existence to more intense forms of physical or spiritual existence supposedly embodied in medieval or Oriental cultures."

From Australia and the Griffins' architectural visions for Canberra, together with Newman College, University of Melbourne and the suburb of Castlecrag in Sydney, to the monumentality of Wright's California houses, the Imperial Hotel, Tokyo and associated commissions in Japan; in New Zealand, the projects at the University of Auckland by Lippincott & Billson; and in China, the Peking Union Medical College by Shattuck & Hussey, and the University of Nanking by Perkins, Fellows & Hamilton, Chicago architecture on the Pacific Rim left a distinctive legacy with resonances across time and space that are more than stylistic and circumstantial. The paper argues that across the Pacific, this material expression of modernity is redolent with the wish-images of Walter Benjamin in which the new turns back upon the primal past.

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An Island and a Nexus: Lessons from Vladimir Ossipoff

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The development of modern architecture emphasized on abstract forms, contemporary technology, mass-production and anonymity. Institutionalized as the International Style, it became the way of designing that can be applied in any place in the world. In this vein, consideration of the specificity of places become very limited, as aspects such as cultural and historical factors were often overlooked while the physical aspect, such as climatic factors, were abstracted as part of the design process. The spread on architecture of the modern movement after World War II was very much based on this abstractionism. Approaches that engaged locality, such as those of Fry and Drew, still prioritized physical and natural factors that were then reduced into abstract matrix.

In this context, this paper intends to investigate the work of the Hawaiian architect Vladimir Ossipoff. Born in Russia, raised in Japan, and then trained in California, Ossipoff established himself as the leading architect in Hawaii in the mid twentieth century. His works are often portrayed as an example of architecture that carried influences from regions around the Pacific. Even he also registered influences from Sri Lankan architecture. How does Ossipoff's work inform us about architecture that appropriate to a place while also be modern? How do we situate his work within the context of architecture of the modern movement?

This paper will analyze formal and spatial characteristics of his most important works. A discussion of Hawaiian architecture as well as those of that influence Ossipoff's design will provide a background for the understanding of his work. This study will then review literature on the notions of modernity and locality. Through these findings, this paper hopes to contribute to the issues modernity, place, and locality.

PS1 An Architectural History of the Pacific Basin?
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Architecture in Samoa: Imagery or Principles of the Pacific?

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It is not without irony that in Apia, Western Samoa's capital, architecture became more 'westernized' since Samoa gained independence in 1962: in the decades until the 1990s a tendency was visible towards an architecture that did not functionally reflect local conditions, instead relied on air-conditioning. Additionally, architects have, during these decades, used the fale, the Samoan house, as a superficial image added to buildings. The (now obsolete) Government Building on Beach Road, represented this attitude, with a fale-formed structure on top of an otherwise strictly modernist office building.

Directly at the turn of the 20th century Samoa had to endure being split up: the islands of Upolu and Savai'i now was a colony to the Deutsches Reich while Tutuila became US-American. In Apia, a blend of foreign nationalities allowed various architectural traditions and styles to intermingle. Between ca. 1890 and 1910, colonial architecture in Samoa was at its height. It was, however, not inflexibly foreign in its response to climate and culture. One the one hand, the "Pacific" as idea was transported into Europe (and USA) via images of the beauty of the country. On the other hand, a number of European and American buildings in Samoa attempted to respond to climate and life-style of the Samoans, in at least partially taking up architectural principles of the fale, the indigenous Samoan house.

This paper investigates the role that the image of the Pacific has acquired in Samoan architecture during the decades post Independence, when architects often decided to evoke the image of the cupola-like roof of a fale without capturing its climatic function. These buildings will be read and interpreted against sample buildings of around 1900, including Robert Louis Stevenson's Villa Vailima (1892), German Governor's Solf's residence, the so-called Panama hat (1897), and buildings by the German Government architect, Albert Schaaffhausen (1903-14), including the former Courthouse, all of which took over elements of Samoan building 'strategies'. The paper will attempt to demonstrate how image-ness replaced principles in these newer buildings.

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Importing Expertise: Australian-US Architects and the Large-Scale

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After World War II, Australia turned - politically, socially and culturally - more and more to its strongest ally across the Pacific, to the United States of America. In architecture, this turn was largely not aesthetic but based on the deliberate gaining of expertise to achieve large-scale projects like factories, skyscrapers and international chain hotels. Australian architects actively sought out firms like Skidmore, Owings & Merrill, Victor Gruen and Welton Becket, forming associations that would help their practices capture ever-larger commissions as part of Australia's galloping US-styled post-war urbanization. This acquisition of 'expertise' was one way, a relatively uncritical but eminently sensible business strategy. Melbourne architect-critic Robin Boyd was appropriately cynical but he too engaged in the practice when away on a US sabbatical (1956-7). The habit continued into the 1970s with projects like the Melbourne Strategy Plan (1975), the result of a productive collaboration between the Melbourne-based McIntyre Partnership and San Francisco architect Joseph Esherick. Yet while Daryl Jackson Evan Walker, Donald Gazzard and others were designing buildings for Pacific nations and Australian presence in Southeast Asia was growing, no Australians were designing or building in the United States outside the completion of the Australian Chancery in Washington DC (1968). The exception was Canadian-Australian architect John Andrews.

This paper examines the role of US expertise in postwar Australian architecture. It includes the part played by John Andrews, whose 'expertise' and reputation were key to his 1969 return to Australia. It examines his practice of engaging US consultants in pioneering the design of exhibition/convention centres and associated hotels across Australia, and of which he was to become an expert by the early 1980s. It concludes with Andrews's mid-1980s competition scheme for a hotel/apartment complex in Los Angeles. This was a project that defied global disenchantment with the large-scale, but was symptomatic of Andrews's design and career trajectory that he would negotiate with mixed success and through which he would endure mixed reception. Expertise had its downside.

PS2 Ancients and Moderns: The Unraveling of Antiquity
John Pinto, Princeton University and Daniel McReynolds, Princeton University, *Co-Chairs*

Piranesi and the Etruscans

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Few eighteenth-century architects were as obsessed with antiquity as Giovanni Battista Piranesi (1720-1778) was. His beloved Romans came under sustained attack in the 1750s after a series of authors claimed that Greece was far superior to Rome in its culture, architecture, and art. Piranesi decided to enter this learned scuffle. To do this, he tunneled further back in time. He returned to Rome's earliest days when it was ruled by a dynasty of Etruscan kings. He explored the city's Etruscan monuments like the Cloaca maxima and parts of the city walls. He traveled to the Etruscan sites like Chiusi and Tarquinia. He examined the most recent learned publications about the Etruscans. This paper will document precisely how Piranesi studied these material and textual forms. It will then turn to his findings. Scholars have long recognized that Piranesi did not faithfully record some of the ancient material evidence he examined first hand, like the painted ornament that he saw in Etruscan tombs. But no one has asked why he reshaped his findings. This paper will explore the implications of Piranesi's working methods and the conclusions he drew about the Etruscans, stressing how the implications of his learned project stretched far beyond designing buildings or reformulating architectural theory.

PS2 Ancients and Moderns: The Unraveling of Antiquity
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Ancient and Modern licentia

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This paper investigates, at a pan-European level, early eighteenth-century debates on the concept and use of licentia—licence—in relation to architectural ornament.

At a moment in which invention more than ever represented a fundamental element of tradition in continuous progress, what in architecture could provide the conventional basis in terms of which licence could be identified and measured? In what terms could a balance between constraint and freedom be defined? In other words, how could a modern architect determine the boundary between 'good' licence and 'bad' licence? And what roles did the study and the authority of antiquity play in shaping or justifying modern praxis? What types of ancient and modern references were deployed to justify or condemn the use of licence? Finally, how did all this change the perception of, and shape the criticism of, seventeenth-century Roman Architecture, and in particular that of Borromini, throughout Europe?

The paper addresses these questions, considering selected case studies from Italy, France and Britain, showing how various authors in different nations provide distinct replies. Analysing the writings of figures such as Henry Aldrich (1647-1710) and Giovanni Poleni (1683-1761), I discuss how debates on licentia responded to the different approaches to antiquity that characterised the wider Quarrel of the Ancients and Moderns. On the one hand, modern philological approaches to the text of Vitruvius and its Renaissance interpreters, together with antiquarian analysis of the ancient remains, multiplied and varied available models of artistic behaviour and complicated the perception of architectural tradition, both in its origin and its evolution. On the other, this astonishing expansion of knowledge reinforced the necessity to define rules and identify firm authorities upon which to rely.

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Archaeological Gardens in Pre-Revolutionary France

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The quarrel between ancients and moderns was transformed by the emergence of physical archaeology as a learned discipline in the second half of the eighteenth-century. Archaeology showed the ground itself constituted an historical record more ancient and irrefutable than any text, and revealed the progress of civilizations to be a turbulent process of revolutions rather than a stately continuum. For progressives, this discovery revolutionized historiography and the polemic on the historical legitimacy of the absolutist state; Rousseau's Emile revered the ground as the fundamental legal text and Louis-Sébastien Mercier's novel L'an 2440 took readers deep below the surface to hear the Earth herself wailing over the injustices and cruelty of despotism. But it was in landscape gardens that this transformed understanding of the subterranean and antiquity assumed a physical form. Girardin's Ermenonville included a pastiche archaeological excavation and picturesque compositions such as Monceau, La Roche-Guyon, Retz, Maupertuis and even the king's Baths of Apollo, conducted the visitor on a promenade down through the strata of time to an unmediated communion with a more ancient and legitimate social and political order. Privileging the transformative power of the elements over architectural and artistic perfection, such gardens prompted meditations upon linear and cyclical time and the regenerative processes of nature. This paper will examine the role of built evocations of the archaeological past within the landscape garden, and discuss how the enemies and advocates of absolutism sought to frame their respective visions of the future as a reconstitution of society on the model of a truer, more just and more ancient past. Seen through the lens of archaeology in the decade before the Revolution, the age-old quarrel of ancients and moderns truly unraveled -- the moderns were revealed to be the true ancients and decay and turbulent transformation were shown to be timeless.

PS2 Ancients and Moderns: The Unraveling of Antiquity
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Ornament and the Language of Architecture in the Wake of the **Querelle**

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The Querelle des anciens et des modernes was rooted in earlier debates about whether French or Italian were best suited to articulate human thought in general, and the elevated ideas proper to the Ancient genre of the epic in particular. These questions were often addressed by examining how and to what extent either language depended on literary ornament to achieve its expressive aims. In the eyes of contemporary critics, the proper use of ornament determined whether Italian or French was the better emulation of Greek and Roman literature.

This paper argues that the discussion about literary ornament initiated in the Franco-Italian language debate and further pursued in the Querelle helped to shape the conceptual framework for the reflection on architectural ornament and beauty in late 17th-century and 18th-century France and Italy. More in particular, the literary discussion of ornament (about its nature, its principles and its effect) was formative for the ‘modern’ views on architecture of Charles and Claude Perrault. The literary debate developed the arguments that the brothers Perrault employed to dismiss the authority of the Ancients, to cast usage as a criterion to validate architectural invention, and pleasing aesthetic effect as the benchmark for successful architecture. This debate would continue to shape architectural discourse over the course of the 18th century.

Because it brought literary and architectural theory into close contact over the question of ornament, the Querelle contributed substantially to the identification of architecture with language that would become increasingly common over the course of 18th century. Conversely, because the Moderns mobilized literary notions of ornament to such effect, it can be argued that this identification at least partly corresponded with the 'modern' view of architecture first articulated at the close of the 17th century.

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Echotecture, Ancient and Modern

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The Quarrel of the Ancients and Moderns often centered on the physical remains of the past and their legacy in the present. Ancient texts, sculptures, and ruins were treated as evidence of whether contemporary literature, art, and architecture surpassed classical achievements. Even when debates were about lost works or imperfect survivals, artifacts still were the focus and comparison still was the primary tool. A key exception, however, was the seventeenth-century fascination with audible echoes. This paper explores how various architects and writers considered the echo, merging the evidence from new experiments in acoustics with examples from the ancient world. Early modern efforts to discover, describe, compare, and ultimately reproduce specific echo effects parallel the broader issues of the Quarrel. The echo is a case study of how quantification, representation, perception, and judgment structured other ancient and modern comparisons that have no physical presence.

PS3 Replicas: Contentious Reconstructions of the Past
Adam Sharr, Newcastle University, UK and Zeynep Kezer, Newcastle University, UK, *Co-Chairs*

Replica as Nation: Philippine Villages in World's Fairs and Parks

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The paper explores modes by which colonial and postcolonial governments deployed architectural replicas in international expositions and theme parks in the service of colonialism and nationalism. The study is a transhistorical and transnational comparison between four cases studies of Philippine colonial and postcolonial architectural representations. The first two case studies focus on Philippine Villages in colonial international expositions abroad (1887 *Exposicion General de las Islas de Filipinas* in Madrid, Spain and 1904 Louisiana Purchase Exposition in St. Louis, Missouri, USA). The second two case studies center on theme parks in the Philippines opened during the postcolonial period (*Nayong Pilipino* or Philippine Village, opened in 1980, Pasay City, Metro Manila and 1998 Expo Pilipino, former Clark U.S. Airbase, Pampanga). As official statements of the Philippine colonial and postcolonial governments, the replica villages and theme parks were carefully designed to construct a visual and spatial experience of the country, albeit an edited one. The colonial Philippine villages, on one hand, are interrogated in terms of the colonial narratives of exoticism and racial hierarchies intended to justify colonial presence in the archipelago. The postcolonial theme parks, on the other hand, are investigated in terms of how similar notions of race and exoticism are enmeshed with nationalism envisioned to proclaim the postcolonial sovereignty of the new republic. The divergences and convergences in the rhetoric about identity in the Philippines are discussed, including tensions between heterogeneity and homogeneity, simplicity and complexity, inclusivity and exclusivity. The replicas of Philippine architecture are also examined in terms of what Benedict Anderson calls the "logoization" of the nation, or the strategies by which countries are transformed into easily reproducible and digestible representations intended for local and/or international consumption. In the final analysis, the paper argues the critical role of architectural replicas in constructing and representing national identity.

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Replicas as Critical Architectural Performances: Krefeld Pavilion

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Proposals to reconstruct architecture usually face two key reproaches. First, they would deceive beholders in denying historic events and their annihilating effects, often subscribing to hegemonic history narrations and identity formations. Second, reconstructions would necessarily remain superficial, pale, and unconvincing approximations of a lost original materiality which alone could guarantee the desired historical sensation. This is apparent in historic debates from the post World War I reconstruction of Ypres to the ongoing Schlossdebatte. Yet this commonplace double argumentation seems to have become at least partially obsolete due to the recent acknowledgement of a conceptual next to a material authenticity and of the intangible aspects of tangible heritage in preservation theory, due to the impact in cultural studies of Judith Butler's concept of the performative nature of gender and sexual identities, and due to a number of unconventional reconstruction designs.

If we think of replicas as instances of architectural performativity in a Butlerian sense, could we not distinguish replication strategies that dissimulate their nature as replica from designs that enact an absent building yet consciously perform this enactment? Elements of the latter attitude can be found in the temporary 1:1 model of Mies's Golf Club project for Krefeld, designed by Robbrecht and Daem Architects and built in plywood last summer near to the project's original site. Depending on their position in and around the pavilion visitors alternately experience this replica as an immersive evocation of Miesian architecture, with the varnished plywood evoking marble panels, but also as a self-exposing scenographic device that alienates its own illusionism, for instance when the supportive framework is left uncovered at the back of the plywood slabs. Precisely in the design and the materialization of this kind of replicas lies a possibility to attain a sharp conceptual authenticity and to resist any straightforward ideological recuperation.

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'Replicas' and the Quest for Identity: Athens, Skopje, Istanbul

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In this paper I aim to approach the issue of 'replica' architecture through three case studies in southeastern Europe. All of them raise the question of national identity but each time the object of replication engages differently with the 'original'.

The 2011 project for the reconstruction of the Taksim Military Barracks in Istanbul from scratch, with plans to open the new building as a shopping centre, has received strong resistance as an invasion of neoliberal economy and a reflection of the neo-Ottomanist ideology of the government. Meanwhile, in Skopje, a different layer of the region's multiple and diverse heritage has been aggressively 'restored': the Hellenistic one, leading to a classicist re-dressing of 70s buildings. Moving from reconstruction of a previously existing structure to the 'restoration' of a national image, 'replica' here acquires a broader meaning, still closely related to a need to consolidate power and to justify a national historiographical canon.

In Athens, the final case study of this paper, 'replica' is used not to restore the original, but in order to create a contradiction: the copies of the Elgin Marbles, situated in the New Acropolis Museum, covered in a transparent gray fabric, await their replacement by the originals in London. It is a replica which puts forward its 'constructedness', and through the negation of its authenticity, becomes a political argument embedded in matter.

Yet how is the materiality of both the 'simulation' and the 'original' lost, or reconfigured, as these 'become signs in a network of signs', and get caught in politicized discourses that outgrow them? Through the analysis of visual material and the discourses surrounding these projects, and borrowing from Baudrillard's definition of the simulacrum, I will explore these variations of the concept of 'replica', in oder to unpack instances of nationalization of heritage in the above-mentioned geography.

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Replica/Simulacra: Politics in China's Modern Cities of the Past

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In 2012 the Exhibition Hall of the City of Datong in the northern province of Shanxi in China underwent structure relocation to make room to restore the ancient city wall in replica. One of the first ever of 24 cities designated by the government in 1982 as the most important historical cities, Datong is among many in the nation that have recently been re-urbanized in a historical architectural style to revive their cultural past. In the case of Datong, the revival project, of which the restoration of the ancient city wall was only a part, is centered on a handful of authentic historical structures, with many more building replicas of various historical styles plugged in to fabricate simulacra of its historical cityscapes. On the surface, the extensive transplantation of architectural replicas from different historical periods satisfies a cultural nostalgia, as well as the needs of global tourism, that have emerged alongside the recent rapid urbanization and economic surge. In this paper, I argue, it actually reveals the politics of the shifting and contested conception of national identity and cultural heritage in modern and contemporary China manifested in architecture. In fact, the Exhibition Hall that was moved in its entirety to the adjacent block is a replica in a smaller scale of the Great Hall of the People, erected in 1959 at Tiananmen Square in Beijing, which itself in turn was built in the Maoist adoption of Soviet neoclassicism. Completed in the heat of the Cultural Revolution in 1969, the Exhibition Hall and its consequent destruction of the ancient city wall were symptomatic of the nationwide hope for Red China. With this in mind, this paper will focus on the architectural replica's role in the debates and discourse over the reconstruction and reclamation of the cultural past in China's modern city.

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Rethinking the Replica: Strategies from the Fringe

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This paper uses the work of Australian architects Ashton Raggatt McDougall (ARM) to examine the potentiality of the replica to critique dominant ideologies. ARM deliberately employ a complex palette of architectural motifs in their work, a process of design that regularly integrates partial replicas of historically significant buildings into their architecture. They do so as a means of interrogating the place of the 'copy' and the 'abject object' in the production of critical architecture. ARM's architectural work attempts to reveal a local architectural language that is partially derived from Australia's relationship of relativity to cultural production in the rest of the world; their National Museum of Australia incorporates the footprint of Libeskind's Berlin Museum, while their Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS)presents a black 'inverse' Villa Savoye. The architects employ both complete and partial replicas as a means of providing commentary about the cultural hierarchies that determine so-called 'significant' architecture, while exploring the complexities that accompany the notion of the authentic and the copy in an era where reproduction is rife.

This paper will argue that such a strategy effectively compresses the divisions between the privileged architectural artefact and encounters of the everyday effectively reframing historically significant architectures within a popularised architectural language. In so doing the replica undergoes a form of transformation that enables new readings of the building, and the copy it contains, within a specific local landscape. In this way replica is used as a means of acknowledging architectural precedent while simultaneously utilising that as a means of generating something entirely new.

PS4 The Tent: One of Architecture's Many Guises

Zirwat Chowdhury, Reed College and William Tronzo, University of California, San Diego, *Session Co-Chairs*

Tent: The Uncanny Architecture of Israel-Palestine 1910-2011

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The 2011 eruption of social unrest in Israel, the largest since the 1970s, focused on popular demands for housing as basic citizenry right. Protest started with self-housing: dozens of tent camps all over the country, housing communities irrevocably alienated to each other: the middle class and the very poor, renters and homeowners, Ashkenazim and Mizrahim, Jews and Arabs-Palestinians. The tent, as symbol and architecture for political action, aligned these communities.

The tent is associated in collective Israeli memory with pioneer communal Kibbutz settlements of the 1920s (Kahana, 2011), producing historical association of protesters with the nation's symbolic building block, by supporters and critics alike.

Yet, the tent is also associated by Palestinians with post-Nakba refugee camps (Maraqa, 2006). In the form of the United Nations Relief and Works Agency (UNRWA) tent, it has thus also performed as explicit symbol of the Palestinian right of return in the heart of the Israeli space, as in the 'tent 1948' section of the main Tel Aviv camp.

In addition, tents represent the first dwellings in Israel for many Mizrahim (Eastern Jews) in the context of mass immigrant camps of the early 1950s. Precarious tents epitomised Mizrahy precarious position compared to European-Jews (Ashkenazim), and subsequent marginalization as second-class citizens ever since (Naor, 1988).

A milieu of tents materialized the housing histories of different and alienated social groups and expressed their competing narratives, while simultaneously serving as a common shared space for political action.

This paper explores the history of tent dwellings in Israel-Palestine since the 1910s and argues that the tent, as architecture and built environment, serves as the uncanny built space for Israel-Palestine, a physical materialization of a civilian discourse both accepting all conflicting historical narratives and challenging the very idea that these narratives serve to clash these communities against each other.

PS4 The Tent: One of Architecture's Many Guises
Zirwat Chowdhury, Reed College and William Tronzo, University of California, San Diego, *Session Co-Chairs*

Shelter from Shebangs to Sibleys: Tents in the Civil War

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Numerous images documenting the Civil War show the tents that served as living, meeting, hospital, prison, and other quarters for soldiers at different proximities to the battlefield. Some are startling for the evidence they bear of efforts to bring what comfort and dignity was possible to armies in the field. For instance, army camps constructed for housing during the winter months, months that were fallow in both agriculture and warfare, sometimes show amenities such as masonry chimneys connecting to textile tents, making for unexpectedly hybrid dwellings. Others show features such as arbors, ramadas, and garlands, meant to mitigate climate conditions or define ceremonial space. Materials for these adjunct structures came from foraging, despoliation of pre-existing structures, and deforestation as soldier-builders drew on native enterprise and a knowledge of craft in vernacular materials that they had brought from home to the front.

This paper will survey the types of tents in use during the Civil War with regard to materials, forms, scale, erection, heating, and ventilation. Based on those details, I will place the tents within the "ecological" context of war, on the continuum from pre-war vernacular landscapes to the infrastructure and built environment of war to post-war remains. Did tents contribute to the military "striation" of the landscape in Deleuze and Guattari's terms, or did their ephemerality reflect a warfare that was still largely mobile? The answer is both. Sherman's occupation of Atlanta provides a case in point. A famous photograph by George Barnard shows Union tents pitched on the grounds of City Hall. The tents housed troops only temporarily--until the march to the sea—but were nevertheless a critical and very visible contributor to Sherman's ability to "invest" the city and wholly repurpose it. While the tents' siting may have been pragmatic, it carried significant symbolic punch too.

PS4 The Tent: One of Architecture's Many Guises
Zirwat Chowdhury, Reed College and William Tronzo, University of California, San Diego, *Session Co-Chairs*

The Other Origin: Chinese Tents and Modern European Perceptions

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In medieval and early modern history, tents symbolized European perceptions of China. Between the fourteenth and fifteenth centuries, travelers and mapmakers constantly noted tent-like edifices in Cathay, and by the sixteenth century tents became the very symbol of China's territories on world maps. As eighteenth-century architects began searching for the origin of architecture, they, too, argued that Chinese architecture originated from tents; yet their argument, which associated China with nomadic settlements, ended up placing China in a lesser stage in world architectural history.

Although modern scholarship has long rebuffed European fantasy of the Chinese architectural origin, it remains debatable whether Europe's centuries-long perception of Chinese tents based only on tall tales or there is some truth in it. This paper proposes a re-examination of early modern European perceptions of China and Chinese tents in relation to archaeological discoveries and structural analyses. By connecting arguments emerging from the study of timber structures in China and its neighboring regions to early modern visual records in Europe, the paper unfolds layers of architectural interpretations of tents while demonstrating how the European allegory of the tent form emerged and why its connotation transformed, from the grandeur of the East to nomadic simplicity.

PS4 The Tent: One of Architecture's Many Guises
Zirwat Chowdhury, Reed College and William Tronzo, University of California, San Diego, *Session Co-Chairs*

The Confluence of Real and Virtual Space in Late Ottoman Tents

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Often dubbed the "Turkish Baroque," stylistic trends in both permanent architecture and imperial tents of the late Ottoman period show significant innovation and experimentation during the eighteenth and nineteenth centuries. For example, the ornate marquee made for Mahmud II (reigned 1808-1839), which is currently housed at the Military Museum in Istanbul, exhibits an abundance of gold embroidery, naturalistically colored flowers, and a number of idyllic landscapes (including a panoramic seascape), all of which break with the traditional style of "classical" Ottoman imperial tents of the sixteenth and seventeenth centuries. Until the modern period, the interiors of Ottoman tents were consistently decorated with appliquéd columns and stylized flora, executed in a limited color palette. However, this uniformity in design was abandoned as tents made during later centuries began to employ a greater variety of materials and techniques. Drawing upon my ongoing research on unpublished tents held in international collections, I argue that these innovations in tentage design and display playfully experiment with the confluence of real and virtual space. The decorated interiors of late Ottoman imperial tents suggest space(s) beyond the fabric wall, virtually dissolving the barrier between interior and exterior. Naturalistically rendered bouquets of flowers and swags of garland that seemingly float in space hail the viewer to "see in," while the embroidered "windows" and panoramas simultaneously suggest the ability to see *through* the fabric wall, as if onto the rolling hills of Istanbul or the crashing waves of the Bosphorus.

While pre-modern tents facilitated the building of empire through military campaigns and diplomatic missions, imperial tents in late-Ottoman Istanbul visualized the "imagined" landscape of an expansive and enduring empire. The confluence of demarcating real space with temporary silken architecture and visualizing vast space in their embroidered interiors thus localized the imperial in the imagination of the urban Ottoman elite.

PS5 What Canon? Questions of Landscape History
Thaisa Way, University of Washington, *Session Chair*

An Alternative Table of Contents

Susan Herrington
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This paper examines an approach to landscape architectural history that incorporates methods from radical historicism, particularly Foucault's genealogy. Michel Foucault's genealogical method, most famously employed in his History of Sexuality: The Will to Knowledge (1976, 1978), enabled him to produce histories as relevant critiques of the present day. For the philosopher Marc Bevir, "genealogy is a mode of knowledge associated with radical historicism. More particularly, a genealogy is a critique of ideas and practices that hide the contingency of human life behind formal ahistorical or developmental perspectives." Along with genealogy, earlier genres of historicism identified by the architectural historian Alan Colquhoun in "Three Types of Historicism" (1983) will be examined. A history of landscape architecture that considers its genealogical construction as well as its explicit historicism may advance a critical dimension within historical landscape practices that is relevant today—and offer an historical formation that is cognizant of its own making. These features are lacking in most landscape architecture history texts that follow the art history canon. Marie-Luise Gothein, for example, in her seminal text History of Garden Art (1913, 1928) mirrored art historical practices to chart chronologically and thematically gardens and landscapes from ancient times to the nineteenth century. This framework enabled her to align the evolution of landscape design with the development of stylistic categories, cultural expressions, and nationhood that paralleled the art historical canon. Since Gothein numerous landscape historians writing in the English language have followed her methods. Yet given the radical revisions within historical thought during the recent decades, it is plausible that a new framework for a landscape architecture history might provide insights into its past that have remained concealed in the shadow of the art historical canon.

PS5 What Canon? Questions of Landscape History
Thaisa Way, University of Washington, *Session Chair*

Threaded as a String of Villas; Landscape Architectural History?

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The separation of architectural and landscape history typically sees the figure of architecture win over the landscape ground. Stemming from a desire to define and advance distinct design professions, such hierarchy lends history a dubious cast with each canon rendered unstable by the other. Separation crisis occurs notably in the writing of national architectural histories, and is particularly acute in countries possessing a stronger landscape identity. Transnational history is also more convincingly drawn at a landscape scale and countries with colonial pasts are difficult to corral into a mere canon of buildings. The implicit hierarchy of sources in architectural history, with primacy awarded to the scale plan drawing and principal elevation, has lost the oblique view, where setting and context cannot be confined to the edges of the page.

This paper will use the linked plantation islands of Ireland and Jamaica to explore the difficulty of writing transnational spatial history from a single disciplinary perspective. Both these islands contain the towns, villas, and plantations laid out by the Browne family, Earls of Sligo from 1750-1835. The conjoined estate survey book segues abruptly from the light watercolours of Westport's great house, estate town and walled gardens to the sharp transplanted urbansim of Sligoville, Jamaica complete with church, cabins and tobacco plantations. Villas and plantations remain inherently ambiguous as to their design origin as neither architecture nor landscape design can claim to be the figure to the other's ground. Stretching across the Atlantic these sites and sources render a divided history both artificial and unconvincing.

With both disciplines threaded historically as separate strings of villas, this paper will explore how these canons can be meaningfully rebalanced. It will also discuss how a lost tradition of representation, namely estate portraiture, effects a remarriage of both histories and a consequent revision of both canons.

PS5 What Canon? Questions of Landscape History
Thaisa Way, University of Washington, *Session Chair*

Roberto Burle Marx. The Vision of a **cidade-parque**

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The work of the Brazilian landscape architect Roberto Burle Marx attests the implementation of an original, all-encompassing landscape in urban space and the definition of a striking model for the contemporary city.

His cidade-parque is a city that creates the landscape. The proposed paper takes leave from this assumption to focus on the methods of putting together an effective model of urban space in which the landscape becomes a dynamic tool for shaping the city.

The city becomes landscape and the landscape becomes architecture. This principle can be seen in the modern system of green spaces designed by Roberto Burle Marx for Rio de Janeiro, Brasilia, and São Paulo based on the relationship between the city and nature, between the expression of the city's urban reality and the bucolic character of the city itself.

Nature becomes a vigorous reference for a modernist project in Brazil, recognizing the importance of aesthetics in urban design alongside formal, ideological, functional, and profoundly ecological considerations.

In the relationship between landscape architecture and the city, the innovative practice of the Brazilian landscape architect goes beyond disciplinary boundaries incorporating the world of the arts, botany, urbanism, and environmental planning.

The proposed paper is the fruit of a well-defined research project that includes the study of previously unpublished archival documents. It contributes to the discussion of the canon of landscape architecture, recognized in the "Renaissance" brought about by Roberto Burle Marx.

A new awareness of public space now subject to design confirms the value of a dynamic, aesthetic experience of the city. The extraordinary expressive power of tropical nature is elevated to a place of beauty, contemplation, and recreation and gives life to fresh perspectives in the aesthetics of the landscape.

PS5 What Canon? Questions of Landscape History
Thaisa Way, University of Washington, *Session Chair*

Gilpin in the City: Constructing the Urban Landscape

Elissa Rosenberg
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Movement has always structured urban form. Promenading-- a highly choreographed and socially coded form of walking-- was a key element of 19th century urbanism in Europe and America that created a space for social display, visual spectacle and the performance of class, gender and power relations. While the contemporary promenade no longer serves the same social functions, it has become a vital urban spatial type once again. New hybrid urban spaces have redefined walking by combining aspects of the ritualized “parade” with the individual experience of the “trail” (Smets 2001) creating new linear open spaces along former rail lines, streams and other natural corridors and edges.

This paper will examine the relationship between the city and its landscape structure, as it has been constructed and experienced through the act of walking. Just as William Gilpin’s printed tours popularized picturesque travel and taught his readers to view the natural landscape as a work of art, encouraging the walker to participate in the construction of the countryside as an imaginary and idealized landscape, I will consider how the contemporary walker constructs the urban landscape through itineraries and views that have been newly revealed by these routes. The linear park provides legibility and presence to the city's natural systems, creating a performative landscape that is grounded in both bodily experience and cultural meaning.

PS5 What Canon? Questions of Landscape History
Thaisa Way, University of Washington, *Session Chair*

Tree Stories: Landscape as a Complex of Histories

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This paper argues that the idea of a canon of landscape architectural history needs to be complemented, or even superseded by a landscape history characterized by what I call a “complex of histories.” This complex of histories builds upon environmental history, the history of science and technology, intellectual and cultural history, as well as the different knowledge bases in fields such as cultural and historical geography, urban sociology, political ecology, and visual, material and media culture studies. This expanded, yet distinct, landscape history, and the critical historicization of contemporary developments in landscape architecture are necessary, I argue, to both adequately prepare future practitioners, educators, researchers and scholars in the field, and to make landscape history relevant for related scholarly disciplines in the humanities and social sciences.

To exemplify what is meant by this complex of histories I will show how different macro- and micro-histories of landscape can be told through a single street tree. Revealing the ideas, practices, politics, conflicts, and discourse related to street trees can highlight how our relationship with non-human nature has changed over time. It can show the role that changing ideas of space and aesthetics, new accomplishments in science and technology, and evolving societal models and politics have played for how street trees have been imagined, selected, planted, grown, maintained, and represented. It can also shed light on the relationships between landscape design, wildlife, social and grassroots movements, and on the trees’ phenomenological and experiential qualities and the different agencies revolving around urban tree landscapes.

Finally, the paper will highlight the merits and risks of the idea of the “complex of landscape histories” by contextualizing it within a concise overview over the twentieth-century evolution of attempts to establish a landscape canon.

PS6 Open Session One
Mohammad Gharipour, Morgan State University, *Session Chair*

Forming Mission Life: Seventeenth-Century New Mexico Conventos

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The year 1966 was significant for the study of Spanish colonial architecture in New Mexico, with the long-awaited publication of the Hendricks-Hodge Archaeological Expedition to the Zuni pueblo of Hawikku and National Parks Service excavations of the mission at Halona (Zuni Pueblo). Unexpectedly, the designs of the two missions turned out so strikingly similar, with a long, single nave church adjoined to a square convento or friary, that they have been attributed to the same designer. While previous attention has focused primarily on New Mexico's mission churches, this essay turns to their adjacent residences, building upon original archival research comparing the two Zuni conventos to consider the design and significance of the convento form in New Mexico.

Conventos developed through hundreds of years of cloistered monastic residences in Europe, emerging to find new expression in the large mendicant missions of sixteenth-century New Spain. At the core, the convento contained an open, rectangular patio with surrounding covered walkways, a form on which New Mexico's Franciscans placed high value. In American contexts, friars reworked the segregated cloister design to suit the new needs of the mission's intercultural community. New Mexico conventos were home to native pueblo parishioners and servants living alongside Spanish and Mexican friars and laity.

Working outward from a comparison of the Franciscan conventos among Zuni Indian pueblos, this essay argues for the significance of the convento form among Franciscans in seventeenth century New Mexico. The central space received priority in construction, and the designers sometimes went to great lengths preserving its form, while the distribution of rooms and functions around its perimeter was more variable and site specific. This research textures the understanding of mission architecture in Spanish America, employing particularized data from two closely related sites in an analysis of a widely distributed mission component.

PS6 Open Session One
Mohammad Gharipour, Morgan State University, *Session Chair*

The Venice Architecture Biennale: On Disciplinary Boundaries

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Since the first Venice Architecture Biennale, The Presence of the Past, curated by Paolo Portoghesi in 1980, until the Common Ground, curated by David Chipperfield in 2012, the discourse about the disciplinary “position” of architecture within the several epistemic cultures has been considerably changed. In these bi-annual events, curators, architects, critics and policy makers have discussed and promoted ideas and strategic conceptions about what architecture “is” or “should be”. Whatever their diversities the central argument of each event is, precisely, the disciplinary of architecture and its relationship with other cultures of knowledge.

This paper aims to inquiry how these bi-annual events have been an instrument of protecting, fixing or redrawing the architectural disciplinary boundaries — excluding and including discourses; adapting and legitimating the culture of other disciplinary fields. It stems from the idea that architecture is a historically discontinuous disciplinary field and that the Venice Architecture Biennales are more than a mere sequence of isolated events. As a totality, they embody various discursive lines on architectural disciplinary, which formed a narrative sustained by constellations of exchanges between actors, institutions, concepts and epistemic cultures. The paper will explore multiple theoretical and methodological viewpoints within the Theory of Architecture and Cultural Studies, which mirrors the interdisciplinary nature of the subject itself.

PS6 Open Session One
Mohammad Gharipour, Morgan State University, *Session Chair*

Mid-Century Modern Revisited: The Case of Pueblo Gardens

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Pueblo Gardens in Tucson, Arizona was among the first modern postwar subdivision in the United States. Bankrolled by builder Del Webb in 1948, the young architect A. Quincy Jones transformed what would have been a standard FHA-approved development into a mid-century modern neighborhood. Being among the first-of-its-kind, the subdivision contributed to the logic of affordable modern tract homes and the marketing necessary to sell them to aspiring middle-class families. Homes featured floor-to-ceiling windows, private outdoor patios, open plans, and common landscape features. To sell these and other modest homes like them, photographers crafted images of white families enjoying the benefits of modern design, plate glass, and outdoor living. Since the postwar period, the demographic makeup of Pueblo Gardens has shifted from middle to working class with a greater mixture of ethnicities. Moreover, the alternations made to the lots and houses by homeowners and landlords point out that the architectural features celebrated by modern enthusiasts have been replaced by historically derivative or readily available materials and architectural elements. Gone are many floor-to-ceiling plate glass windows and shared hedgerows. In their place are casement windows and chain-link fences. This paper analyzes the contextual, demographic, and physical changes of Pueblo Gardens over time. It argues that the dramatic transformation of Pueblo Gardens challenges the ethos of mid-century modern architecture and its preservation, which depend upon images of immaculate modern interiors and white middle-class families living leisurely outdoors, and offers a vernacular view of mid-century modern houses and subdivisions that instead embrace architectural adaptability and resident class and ethnic identities.

PS6 Open Session One
Mohammad Gharipour, Morgan State University, *Session Chair*

The Case of C. E. Bell: An Episode in Professionalization

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The professionalization of architecture fell into three roughly equal periods: Phase 1) fifty years to achieve distinction from other building trades [1851-1899]; Phase 2) fifty years to achieve state recognition through licensure [1899-1951]; and Phase 3) fifty years to question that legitimacy. But while the process validates Abraham Flexner's general observations about professionalization, its geographic manifestation offers little logic. The first ten states to grant the distinctive protection of licensure present no obvious pattern, including states old and new, east and west, highly urbanized and largely rural. If professional status was justified "in the interests of public health and safety," other explanations must be sought.

The emergence of architecture as a profession on the Great Plains of the United States and Canada offers a more complex and nuanced picture. Twenty-five hundred self-identified "architects" practiced before 1930 in the ten states that constitute the Great Plains [TX, OK, KS, NE, SD, ND, CO, WY, and MT], and the complex pattern of their practice—the development of "natural" market areas—identifies other, more practical considerations in the quest for regulation.

Midway through the period of licensure—Phase 2— the National Council of Architectural Registration Boards arrived as a mechanism to facilitate interstate practice. A secretive organization whose extra-legal processes are inaccessible to its applicants, NCARB became an essentially undocumentable player. The case of Charles Emlen Bell—an architect seeking work across state lines, a boundary separating a non-license state from one with a recent registration law—offers considerable insight to the nature of practice, the status of professionalization, and changing role of ethics. The survival of Bell's NCARB file may be a unique document in the history of architectural practice.

PS7 Dwelling in Asia: Translations between Housing, Domesticity & Architecture
Lilian Chee, National University of Singapore and Eunice Seng, The University of Hong Kong, *Co-Chairs*

Dwelling In Ruins: New Archaeologies of Displacement

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Environmental disasters and wartime displacements have radically altered Asian geographies during the past three decades demanding new strategies of emplacement. They produce Asia dialectically as an arena for disaster relief and developmental narratives against the political and economic expansion of a marketized neo-liberal nation state. These strategies take multiple forms of embodied individual subjectivities, of private design interventions and more public forms of institutionalization, underscored by the terms of their unsettlement. They challenge embedded existential and ontological associations closely linked with natal imaginaries and national ideologies.

This paper studies the material- spatial responses to wartime dispossessions in Sri Lanka examining how displaced residents refashion conditions of displacement by making spatial claims on borrowed territories. Expanding on Eyal Weizman's theorization of ‘forensic architecture' it explores how the assumption of emplacement inscribed in archaeological practices can be applied to a new vocabulary of ‘dwelling' in the ruins of normative historical and historiographical discourse. Focusing on the home as a critical manifestation of emplacement and displacement, this paper situates its unhomely wartime taxonomies arguing their relevance for the architectural archive.

The examples for this paper are derived from three scenarios of displacement and dispossession related to specific episodes in Sri Lanka's civil war: the loss of the home in the 1983 ethnic pogrom, refuge from the escalating conflict and the final stages of military confrontation and depopulation into camps. Each of these conditions is analyzed in relation to their architectural effects and their capacity for a critical theorization of normative architectures. Material associations are intensified, new stealth architectures are buried within city fabric and resettlement strategies are reconfigured as welfare villages. The resultant architectures reposition dwelling, politically and socially, as artifacts of representation and refuge.

PS7 Dwelling in Asia: Translations between Housing, Domesticity & Architecture
Lilian Chee, National University of Singapore and Eunice Seng, The University of Hong Kong, *Session Co-Chairs*

Designating Home: Objects, Plans, and Citizens in North Korea

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Cited next to a 1988 photomontage depicting the Koryŏ Hotel in Pyongyang is the caption “the home base that our Dear Leader has specified for us.” If this description prompted that Kim Jong-il had selected the urban site for his utopian vision, it also evoked the arbitrary yet deliberate ways in which housing is assigned in the North Korean context. Members of its populace typically cannot move into (or out of) their residences by their own volition. Instead, they must bank on an official “entry permit.” This paper will reveal the extent to which the authoritarian regime directed the living arrangements of its citizens—down to the furniture pieces and the bodies associated with them.

This domineering scenario is complicated by the fact that architecture was expected to pay homage to the nation’s forefather, either figuratively or as a literal provision of “a building that the Great Comrade may or may not visit.” Kim Jong-il had announced in his 1991 treatise, On the Art of Architecture, that architecture was both emblematically and in fitness meant to guarantee his father's lifespan of 10,000 years.

What do the prosaic lives operating under the stewardship of the Kim patriarchs tell us about the means of, and the meaning of, residing in the North Korean context? How was the idea of dwelling transmitted through quotidian objects, modern architecture, and their users, whose collective subjectivity remains as rooted to familial piety, as it is to public citizenry?

I show how the North Korean citizen who was expected to assume an array of subject positions—as a removed spectator and more directly as an inhabitant—was implicated in the hermetic society’s production of architectural thought that bourgeoned in the late 1980s.

PS7 Dwelling in Asia: Translations between Housing, Domesticity & Architecture
Lilian Chee, National University of Singapore and Eunice Seng, The University of Hong Kong, *Session Co-Chairs*

Redefinitions of Dwelling in the Asian Serviced Apartment Industry

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In 1984, Singapore's civic leaders and businessmen joined together to celebrate the inauguration of the Ascott Executive Residences, the city's first dedicated serviced apartment complex. In the three decades that followed, Ascott swiftly became the largest developer of serviced apartments in Asia, operating more than 200 properties in Bahrain, China, India, Indonesia, Korea, the Philippines, Qatar, Thailand, the United Arab Emirates, and Vietnam. From Doha to Danang, it is highly likely that a businessman who is sent abroad on a short-term assignment will live in one of the 30,000 apartments that are designed, built, and managed by Ascott.

This paper traces the origins of the Ascott Group from its founding in the 1980s through its subsequent expansion across Asia. Drawing upon interviews with Ascott's senior management team and fieldwork conducted in Thailand, the paper demonstrates the way in which an urban model developed in Singapore was exported to cities across the continent in order to meet the residential needs of a highly mobile class of businessmen and technical experts. In so doing, it uses one of the defining architectural typologies of Asian modernization—the serviced apartment complex—as a lens for investigating the substantial increase in short-term and part-time inhabitants in the contemporary Asian city. Through a detailed inquiry into the design, production, and use of temporary housing typologies, the paper studies how the expansion of transient populations in Bangkok and Singapore has challenged conventional conceptions of housing, dwelling, and domesticity in the fields of architecture and urban planning.

PS7 Dwelling in Asia: Translations between Housing, Domesticity & Architecture
Lilian Chee, National University of Singapore and Eunice Seng, The University of Hong Kong, *Session Co-Chairs*

The *Domesticity* Adventure *of the 1980s in Japan*

Marta Rodriguez
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In his lecture “The Furniture Adventure”, delivered in Buenos Aires in October 1929, Le Corbusier explained that the concept of “furniture” has disappeared, replaced by “equipment”, as a revolution in the design of domestic space.

Half a century later, Japan became the world’s optimum dwelling laboratory. The 1980s in Japan was a decade of splendor, rapid economic growth, industrial development, and social revolution, where new lifestyles and the flourishing of urban nomadism demanded new architecture. In that environment of booming individuality, leisure and consumption, the experimentation in domestic architecture started with the conception of furniture and interiors.

Since the early 1980s, the fundamentals of interior design in Japan experienced a shift from austere modernity to the growing concern about decoration. Furniture was conceived more as “pieces of art.” Influential designers like Shiro Kuramata, Shigeru Uchida or Takashi Sugimoto challenged not only the architecture brief, but also the city.

This “Golden Age of the Japanese Design" was a period when the notion of the “public” itself began to be questioned. Prior, in the 1970s, the architect Kazuo Shinohara initiated a revolution in domestic architecture according to a new society based on the isolated individual. Following his path, Koji Taki and Toyo Ito perpetrated a change, under the conviction that the house itself had lost its meaning. Subsequently, Kazuyo Sejima designed her residential works as habitable technological furniture. That revolution has influenced contemporary Japanese experimental architecture as seen in Shigeru Ban's *Paper House* (1995) or Sou Fujimoto's *Final Wooden House* (2006-2008).

The innovative Japanese residential architecture has taken from furniture design, aspects such as formalism, lightness, capacity of assembly and disassembly, experimentation with novel materials, and the search of pleasure associated with individuality. These assumptions contradict Corbusier's mechanists ideas, returning to the *luxe* of decorative arts.

PS7 Dwelling in Asia: Translations between Housing, Domesticity & Architecture
Lilian Chee, National University of Singapore and Eunice Seng, The University of Hong Kong, *Session Co-Chairs*

Architecture and Urban Living in Early 20th Century South China

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This paper explores the ways in which architecture and urban living have been articulated in the popular press in Hong Kong and Canton in the mid 1930s – a period that saw both cities underwent accelerating real estate speculation and the emergence of new types of residential spaces and urban amenities. While much have been written on “modern” Asian metropolises such as Shanghai and Tokyo, less attention has been paid to developments in other urban centers and their roles in the ongoing construction of cultural knowledge that traversed across the region. This paper will examine reports of new building and infrastructural projects in Hong Kong and Canton that appeared in trade journals and how these writings converged with and diverged from other narratives of urban living by writers of different social positions. It argues that although modernizing projects were initiated by professional experts, the shift toward a new urban milieu was facilitated by a host of moralizing practices that took place across multiple sites and scales. An examination of the articles circulating in the Chinese press in the period, for example, reveals not only a widespread obsession with different facets of modern living ranging from the improvement of hygiene to the design of domestic furnishings, but also a conscious effort to construct a regional, modern “Cantonese” identity set in contrast to the “backward” Chinese Mainland. Meanwhile, the proliferating discussion of modernization also prompted new demand for better housing and right to urban services among the less wealthy. By attending to the connection between building forms and social norms in this period, I seek to illustrate the formation of “epistemic communities” amidst ongoing capitalist urban development and the dialogic processes through which an increasing number of Chinese participated in a new mode of self-governance and construction of an emergent moral topography.

PS8 Architectural Histories of Data
Zeynep Çelik Alexander, University of Toronto, Canada and Lucia Allais, Princeton University, *Co-Chairs*

The Pit as Natural Order: Reconciling "Wind Wheat" as Data

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When the Chicago Board of Trade officially adopted the practice of dealing in futures in 1865, trade in grain, one of the world's oldest commodities, would be forever changed. Industrial innovations such as transportation by rail, storage in mechanized elevators, and standardized grades and weights allowed grain to be abstracted into what William Cronon has described as a "golden stream," infinitely divisible and, due to futures, severed from its physicality. Because futures contracts were often settled between parties without actual grain ever exchanging hands, the line dividing gambling from the deals made in "wind wheat" on the Board of Trade exchange floor was incredibly thin. This perception was all the more amplified by the growing popularity of "bucket shops" where anyone, anywhere could speculate on the fluctuations of the Board of Trade's prices, information distributed nationally by telegraph companies.

Thus, not only were commodity flows liberated from the transaction; they were released from spatial constraints as well, causing the price to transform from privileged knowledge into conceivably democratized data. As the battle against the bucket shops intensified in the 1880s, it became imperative to the legitimacy of the Board to claim proprietary rights over this data as well as the "natural order" of this market as a necessary, self-regulating machine. One solution was the introduction of a para-architectural element: the trading pit, a series of stepped octagonal rings creating a shallow amphitheater for traders, which served a pragmatic purpose for organizing the rambunctious trading activity but also relocated the creation of the Board's valuable data within a concentrated, strictly delineated space. This paper examines the pit as a metaphysical device that circumscribed the space of futures transactions as unique and corporeal, differentiating these rings as the only legitimate place in which the *real* data of commodity prices might be produced.

PS8 Architectural Histories of Data
Zeynep Çelik Alexander, University of Toronto, Canada and Lucia Allais, Princeton University, *Session Co-Chairs*

Scripting a Safe, New World: The DIN Episteme in Modern Architecture

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In times of "big data," accumulation is often seen as non-problem due to ever-accelerating increase of storage capacities. This paper, however, will scrutinize the notion of accumulation (after prior division) as practice in modern architecture. In order to re-read the aesthetics and mechanics of modern architecture this paper will borrow terms from the debate around technical norms in early 20th century Germany: tolerance and precision, control and deviation, and Teilbarkeit and modularity. The norm's episteme of division and reassembly is essential to understand the architectural production of the German Avant-Gardes such as the Bauhaus, the Neue Sachlichkeit or the magazine G.

The German Institute for Norm (DIN), founded in 1917, understood its task to define discrete objects. Specified as parts on norm sheets, an outline was drawn around each single module to demarcate its limit condition. The norm was introduced to prevent such uncontrolled deviation—any overspilling beyond this delimited space jeopardized functionality of the whole. By negotiating absolute precision with inevitable margins of error in what the DIN called "tolerance," the DIN Norm became the ultimate script for the modern object.

Walter Porstmann, DIN agent and inventor of the DIN A paper format, described this norm-system as "a new building, one that has no covered seams, one that is transparent." By idealizing transparency and readability of construction, Modernist Avant-Gardes in turn translated the norm-thinking into architectural gestus. This paper proposes a reading of the modernist separation of building parts as the attempt to dismantle complexity into controllable, discernible elements. Modern architecture as practice can then be understood as an act of reassembly. It re-constructed the world according to the norm's episteme: breaking it down into digestible parts to then reassemble a predictable, safe new architecture.

PS8 Architectural Histories of Data
Zeynep Çelik Alexander, University of Toronto, Canada and Lucia Allais, Princeton University, *Session Co-Chairs*

The Organizational a priori *of Land Cover Classification*

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Land cover datasets register our attempts to comprehensively catalog the materials and human activities covering the earth's surface; through a series of mutually-exclusive categories, the earth is parsed, cataloged and compared. Emerging during the 1970s—alongside the field of satellite-based remote sensing, and large-scale, land use management policies—standardized land cover datasets have been understood primarily as the carriers of information in service of these techniques and policies, while the decisions leading to their construction have been black-boxed away as a previously-solved technical problem.

The categories themselves — urban, wetland, forest, and others — are of seemingly common usage and appear to correspond to an on-the-ground experience of land cover that is anterior to the techniques of remote-sensing and image interpretation. By analyzing a project from the early history of large-scale land cover analysis, this paper offers an alternative explanation for these categories that is far removed from the ground and situated firmly within the image interpretation laboratory.

The New York State Land Use and Natural Resource Inventory (LUNR), conducted between 1967 and 1971 at Cornell University's College of Engineering, simultaneously proposed a land cover classification scheme for New York State, and a codified procedure for aerial image interpretation. This paper argues that the resultant categories were determined by the physical and social organization of the interpretation process. Quite apart from an *a priori* catalog of existing land features into which aerial imagery was classified, the categories themselves were actively validated and depreciated in response to a complex network of photographs, rules for their inventory and assembly, committee decision protocols, room illumination, and even the physiological constraints of the eye. The reality of what entities existed on the ground—established through their subsequent representation and circulation—was not determined by the ground itself but by the interior rules of this laboratory procedure.

PS8 Architectural Histories of Data
Zeynep Çelik Alexander, University of Toronto, Canada and Lucia Allais, Princeton University, *Session Co-Chairs*

Le don and la donnée: Or, How Data is Taken as "Given"

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"...Billions of dollars are going to be placed at our disposal to establish their banks for our data."
--Marius Franciscono, Director of the Informatics Office of Benin, 1982

According to Marcel Mauss's theory of the gift (le don), hospitable offerings from one society to another generally demand reciprocation. The gift thus differs from modern economic forms insofar as its terms of exchange are not contractually determined in advance. Mauss was describing a practice prevalent among "archaic societies", but for the past half-century the global spread of computing technologies has been said to instantiate a form of freely traded knowledge. Indeed, as third-world slums became a principal locus of data collection, slum inhabitants were perceived as likely recipients for the "gift" of computer infrastructures. Inherent to this seeming gift economy is an assumption that data-- as its French term, donnée, suggests --exists as a kind of natural or apodictic "given", independent of the ways it is actually collected, analyzed, sold, and used. The two meanings of "given" --referring, firstly, to that which is freely offered, and, secondly, to some natural or self-evident truth-- hint at how data has been epistemologically formulated to lend itself to certain kinds of economic exchange. As an innate given, data becomes a natural resource, a gift whose recipients can choose how (and if) they will reciprocate. Because data is "mined" and "harvested", its real ownership --as is generally the case with economies of extraction-- lies not with those who "give" it but with those who access it via banks and networks. Drawing from late 20th-century histories of Latin American urban planning and of the International Bureau of Informatics, this paper explores how social distinctions produced in part by architectural-urban practices helped fashion data economies in the image of older colonial paradigms of exchange.

PS8 Architectural Histories of Data
Zeynep Çelik Alexander, University of Toronto, Canada and Lucia Allais, Princeton University, *Session Co-Chairs*

Materials without Qualities

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As an employee of the Pennsylvania Railroad Company, the analytical chemist Charles B. Dudley established a laboratory to inspect the chemical composition of steel used in rails. His tests produced an enormous outflow of data that proved invaluable to the company. Numerous tables quantified trends of wear and breakage directly from the existing rail network. Dudley used these tables to recommend a single normative chemical composition of steel that the data showed to be the most resilient. He observed that this method of technical specification could be applied to any industrially produced material.

After leaving his post at the railroad in 1898, Dudley formed the American Society for Testing Materials (ASTM) to apply his analytical method to specify the chemical composition of structural materials—iron, steel, cement, brick, among others. He also wrote specifications to normalize non-structural materials such as pigments used in paints and petroleum products used in lubricants.

Although various material samples may have appeared to be the same, the project of specification was based on the belief that beneath this sameness lay a high level of variability. Unlike Mendeleev's Periodic Table (1871), in which atomic weights could be directly related to an element's qualities, industrial materials—materials without qualities—were never pure and required data to define their specificity. In other words, processes of production, testing, and writing inscribed standards in place of phenomenal qualities. This paper offers a historical account of the transformation of quantitative differences into abstract standards that governed a field of mass-produced architectural parts.

PS9 Industrial Landscapes and Heritage: A Global Examination
Catherine Boland Erkkila, Rutgers University, Session Chair

Through the Lens of Industry: Re-Envisioning Rust Belt Ruins

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Rust Belt cities are frequently viewed through the lens of their industrial ruins, which can serve as both an obstacle and an opportunity for revitalization. In an increasingly global, digital economy, 'ruin porn' photography has contributed to viewing these cities as the national symbols of a failed Fordist system. Abandoned factories and warehouses inhabit many popular photographs by Andrew Moore, Camilio Vergara and Robert Polidori, yet recent revitalization efforts contradict this pessimistic portrayal of industrial architecture. Some cities, such as Detroit and Buffalo, have found unique ways to capitalize on their rich industrial heritage in order to defiantly rise above the ruins that have become so alluring to armchair viewers and tourists alike. By popularizing an attraction to these rusted spaces, this kind of ruin photography has generated both impediments and inspiration for industrial preservation. Complicating the relationship between ruins and revitalization, this presentation will investigate both the challenges and potential embedded within the attraction to and consumption of the post-industrial landscape.

The growing interest in industrial sites creates a particularly charged context for both the tourism industry and architectural historians. Just as industrial structures have often been marginalized in the architectural canon, architecture has often been marginalized in the canon of industrial history and labor relations. The intersection of these fields is amplified by the tourist industry's increasing use of heritage to rebrand the Rust Belt as a primary destination for post-industrial ruins. By bringing this industrial heritage to the forefront, historians and planners alike must envision a new era for these cities, rather than merely replacing the former industries of steel, grain and transportation with the industry of tourism. This presentation will problematize the term 'post-industrial' and instead consider a shift in industry, using industrial heritage as a primary tool for propelling these places forwards rather than backwards.

PS9 Industrial Landscapes and Heritage: A Global Examination
Catherine Boland Erkkila, Rutgers University, *Session Chair*

Sao Paulo's Northwestern Country Towns: Heritage and Marginality

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This research studies the central urban areas intersected by the old iron bed in northwestern cities in the State of São Paulo, in Brazil, namely: Presidente Prudente, Araçatuba, Birigui, São José do Rio Preto and Marilia. Towns developed from the arrival of the railroad, whose economy was based on the flow and processing of raw materials from major agribusiness plants. In this sense, the center of these cities was being punctuated by several industrial structures flanking the railway line, this being an important means of transporting passengers and goods. However, as time went by, with the decline of coffee, followed by the low cotton prices and incentives to road transportion, industries ceased operations, which caused the successive abandonment of the railway network in the State of São Paulo, resulting in obsolescence and scrap. Araçatuba and Birigui's rails were relocated; in Presidente Prudente and Marilia they still remain, but remain unused; and in São José do Rio Preto, it represents a threat to public opinion, due to the risk of accidents, since the compositions still operate precariously. Although, the central area of these cities has undergone modernizing interventions and gentrification, which are destroying some emblematic spaces, thus compromising the preservation of an important part of urban memory, especially the old railroad and factory buildings. At the same time, amid the industrial landscapes and decaying railroad heritage, there are situations and dweller types able to reveal some imaginary, capable of triggering: surprises, dilemmas and entanglements in the analysis of urban composition, the modernization process and its consequent deterioration. Therefore, from the marginal uses presents in each city, we try explain a political critic view of these urban areas. A destabilizing way of reading places filled with meaning, in the counterculture of the hegemonic space.

PS9 Industrial Landscapes and Heritage: A Global Examination
Catherine Boland Erkkila, Rutgers University, *Session Chair*

The Post-Industrial Landscape of Post-Modern Manchester 1979-1996

Eamonn Canniffe
Manchester School of Architecture, Manchester, UK

Manchester's industrial decline had already taken hold when Margaret Thatcher was elected British prime minister in 1979, but with the city council vehemently opposed to central government policies, it suffered a prolonged recession throught the 1980s and early 1990s. In this period, which ended with the reconstruction process following the I.R.A. bombing of 1996, two new but interlinked phenomena came to prominence which played a significant role in forming the new urban image of Manchester. The first was the desire to transform abandoned industrial areas into cultural, leisure and heritage locations, represented by the multi-layered developments in Castlefield which, adopting a key post-modern concept, became known as an urban palimpsest. The second was the identity developed around the new music scene, first with punk in the late 1970s and then with the opening of the Hacienda club in 1982 when a fashionable industrial aesthetic was confirmed as the language in which urban regeneration would be expressed.

Significant change, however, commenced with a retreat from the radical political agenda of the city council to be more accommodating to government strategy and, following her third election victory in 1987, the Thatcher government's extension of regeneration strategies to areas of industrial dereliction. The Central Manchester Development Corporation operating until 1997, oversaw redevelopment of a stretch of the city centre, essentially along the course of the Rochdale Canal. Although the concentration was on infrastructure the CMDC was responsible for facilitating the Bridgewater Hall, the city's new concert hall which represented a shifting of the cultural centre out from the historic core of the city to the former industrial zones.

This period therefore saw a crystallisation of Manchester's contemporary image through the transformation from a counter-cultural appropriation of heritage to its corporate exploitation in new residential and office developments which consciously reinforced the city's industrial image after the disappearance of its manufacturing base.

PS9 Industrial Landscapes and Heritage: A Global Examination
Catherine Boland Erkkila, Rutgers University, *Session Chair*

The Rise, Fall and Rise of Passenger Rail Heritage in Melbourne

Ian Woodcock
The University of Melbourne, Victoria, Australia

This paper explores a moment of history-in-the-making as Melbourne, Australia, painstakingly grapples with transforming its rail system into one for the 21st century. Here, the rise and fall and rise again of passenger rail heritage is profoundly implicated in shaping the city's physical and cultural landscape. The current swathe of grade separation and station upgrade projects raises many complex cultural issues beyond a narrow engineering perspective.

Despite the view that modernist planning was primarily driven by techno-scientific rationality, the trajectory of mobility and mass transit is bound up with the history of industrialization and urbanization, reflecting broad shifts in cultural values and the mediations of politics and corporations. The post-war shift to automobility created legacies of passenger rail heritage infrastructure by neglect. As roads took hold, mass transit systems were dismantled, reduced to marginal status and left as remnants rather than renewed, replaced, and extended as in countries where automobility was less thoroughly embraced. However, as the private car's dominance begins to diminish and transit regains its status, the legacy of rail heritage must be confronted as a cultural conundrum with paradoxical implications. Rather than a problem of adaptively re-using industrial heritage for new purposes and programs, the issues are to do with the need to dramatically improve the standard of the original purpose. This is occurring as part of a paradigm reversal from road to rail within the broader culture, bringing a complex mix of prejudice, politics and planning to bear on important infrastructure investment decisions.

Nowhere are these issues more apparent than in Melbourne which had the world's most extensive suburban rail system at the end of the 19th century, with a legacy of significant numbers of outdated heritage stations and level crossings that cause road congestion and prevent attempts to improve rail services.

PS9 Industrial Landscapes and Heritage: A Global Examination
Catherine Boland Erkkila, Rutgers University, *Session Chair*

Inventing Industrial Heritage in China: Tourism and Deep History

Andrew Johnston
Xi'an Jiaoton-Liverpool University, Suzhou, China

Exploring the Hubei-Huangshi Industrial Heritage Area in central China can illuminate the nature of the newly emerging field of industrial heritage in China and how understandings of industrial heritage differ between China and the West. This site, part of greater Wuhan city on the south bank of the Yangtze River in Hubei province, is in line for promotion by the nation as a UNESCO World Heritage Site. The Haungshi Industrial Heritage Area is composed of four primary sites: the ancient Tonglüshan Copper Mine which dates from 1000 BCE; the integrated steel, iron, coal enterprise of Hanyeping Company from 1890 to 1948 developed with Japanese and European technologies; the Daye Iron Mine open pit, operated from 1890 but with an associated two thousand year use history; and the Huaxin Cement Plant, operated from 1949 to 2005 and based on American kiln technology.

This heritage area is unusual from a Western point of view for three important reasons: it covers an extensive historical period from prehistory to the present; it includes a broad range of industries and resources; and it engages with tourism in a different manner from Western industrial heritage sites. For example, the historical and industrial breadth of the site makes an argument that modern industrialization is a continuation of a deeply Chinese history, in keeping with contemporary uses of the past in China more broadly. In addition, the conceptualization of this area as a tourist site includes the creation of a Daniel Libeskind-designed museum and amusement park elements that do not fit in with Western industrial heritage norms. This paper explores these three aspects of the Huangshi Industrial Heritage Area, how they illuminate the contemporary Chinese approach to industrial heritage, and how that approach challenges Western assumptions about the nature of industrial heritage sites.

PS10 Brutalism in the Americas: North-South Connections
Carlos Eduardo Dias Comas, Federal University of Rio Grande do Sul, Brazil and Ruth Verde Zein, Mackenzie Presbyterian University, Brazil, *Co-Chairs*

Canada, Concrete and Climate: From Grain Silos to Expo '67

Michelangelo Sabatino
Illinois Institute of Technology, Chicago, USA

Walter Gropius (1913) and Le Corbusier (1923) celebrated concrete silos and factories realized in the Americas as "first fruits of the new age." As such, these modern buildings, with their striking unadorned volumes, served as a conduit for exchange between the Americas (North and South) and Europe.

Despite the sustained study of concrete, modern architecture and Brutalism in the Americas, recent historiography has focused less on the important role that climate played in adapting the lessons of "Masters" such as Le Corbusier to different climate zones (temperate, tropical and sub-tropical) by younger generations of architects. A case in point is Canada, the largest country of the Americas, book-ended by the wet and cool oceanic climate of the Pacific Northwest region (Vancouver) and the temperate climate of Eastern Canada (Montreal and Toronto).

During the 1960s when Canada celebrated one hundred years of Confederation, large-scale civic, cultural and educational buildings were commissioned and realized ranging from John Andrews' Scarborough College (1964-65) outside Toronto to Arthur Erickson and Geoffrey Massey's Simon Fraser University (1963-65) outside Vancouver and Moshe Safdie's Habitat in Montreal (1967). Although these buildings combine pre-fabricated and poured-in-place concrete to achieve a Brutalist expression, the deployment of this material varies significantly between cities and regions. More specifically, architects on the West Coast deployed a tectonic post-and-beam structure with glass infill to let in as much natural light into their buildings while architects on the East Coast deployed the stereotomic walls to protect the building during the long winter months.

My paper will analyze how and why adaptation to the Canadian climate played a major role in shaping modern architecture during the 1960s. By so doing, I hope to reveal interesting parallels between Canada and the practices of architects working in other countries of the Americas such as Argentina and Brazil.

PS10 Brutalism in the Americas: North-South Connections
Carlos Eduardo Dias Comas, Federal University of Rio Grande do Sul, Brazil and Ruth Verde Zein, Mackenzie Presbyterian University, Brazil, *Session Co-Chairs*

A Brutal Context: Gunnar Birkerts at Tougaloo College, 1965-1972

Michael Abrahamson
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In 1965, Gunnar Birkerts prepared a master plan for Tougaloo College, a small, private, historically black college outside Jackson, Mississippi. His designs for Tougaloo carried the burden of battling racial inequality, and present an opportunity to investigate the role that architecture played - as instigator, impediment or otherwise - in the US Civil Rights Movement. Were Brutalist architects in the US really as apolitical as they have been made to seem in comparison to their South American contemporaries?

One of numerous "megastructures" designed for rapidly expanding academic campuses during the 1960s, Birkerts's ambitious and aggressive plan made use of a striated, linear organization centering on an open plaza. The seemingly defensive posture revealed in this master plan responded not only to Brutalist imperatives toward material honesty and formal expressiveness but also to physical and political threats to the campus stoked by racial prejudice in Jim Crow-era Mississippi, threats that had also driven the college's moderate administration away from activism. In the early 1960s, Tougaloo had served as a citadel of sorts for activists advocating nonviolent direct action, but a turnover of the college presidency had very quickly diminished its stake in the movement, redoubling instead its efforts to provide basic liberal arts education for rural African-American Mississippians.

In response to the college's ambitions and the site's difficult "Yazoo Clay" soil, Birkerts deployed an industrialized construction method and caisson foundations, resulting in a structurally exhibitionist architecture dramatically suspended in air and reminiscent of infrastructure. This paper proposes that the Brutalist aesthetics of these designs arose not only from predispositions on the part of the architect, but also in response to the contingencies of a supremely difficult sociocultural context. Despite aesthetic and maintenance difficulties, his buildings at Tougaloo should be seen as an important document of Civil Rights heritage.

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Carlos Eduardo Dias Comas, Federal University of Rio Grande do Sul, Brazil and Ruth Verde Zein, Mackenzie Presbyterian University, Brazil, *Session Co-Chairs*

Building Form and Production in the Social Context of Brutalism

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The purpose of this paper is a comparative analysis of three buildings, considered as referential Brutalist architecture in United States, United Kingdom and Brazil. The case study in US is the University of Massachusetts in Dartmouth (1963-66), designed by Paul Rudolph. In UK the case selected is the Barbican Center (1959-76) in London, designed by Chamberlin, Powell and Bon. The Brazilian case is the School of Architecture and Urbanism of University of São Paulo (USP), designed by Vilanova Artigas (1961-1969).

The comparison considers the role of these building in the configuration of the urban form (the university campus in São Paulo and Darthmouth, the urban reconstruction in London) and the structure of the internal space of the buildings (fragmented in Barbican and UMass, continuous in USP). For Mehrtens (2007) Rudolph's plan for UMassD is his most important experiment of new materials as well as a space that takes in account the psychology of the individual, as an opposition to monotony of International Style. Frampton (1980) highlights the welfare policies background of Brutalism in UK, proposing that its vernacular approach was quite contradictory with the formalist affiliation to Le Corbusier concrete brut. Artigas's school belongs to the last period of developmentalist modernism in Latin America, and it was conceived in a New Monumentality orientation on a very innovative concept of continuous space from urban to the interior of the building. Some similarities of these contexts can approximate different forms and design approaches, but the material choices of the architects can reveal different intents regarding modernization in the political context of cold war in America (North and South) and late war reconstruction in UK, looking forward to new social organization. This work aims to highlight the possibilities and boundaries of the visual and historical methodologies to the explanation of architecture.

PS10 Brutalism in the Americas: North-South Connections
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The Malleability of Venezuelan Precasting and Polish Engineering

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While Polish-American structural engineer Waclaw Zalewski (1917-) is known in his homeland for iconic civic landmarks in steel and a repertoire of industrial buildings built primarily in concrete, among his most historically and typologically significant works were designed and constructed in Venezuela. Starting from when he moved to Venezuela in 1962, his work included a Lyceum in Valencia, a public arena in Barcelona, and an extension of the Caracas art museum with Carlos Raul Villanueva. Whether for public facilities of major spans, institutional buildings of minor spans, or other typologies for housing, his work in collaboration with engineer Jose Adolfo Pena continued for decades after Zalewski moved to become a faculty member of MIT's department of Architecture since 1966.

Much of the scholarship surrounding brutalism has focused on materialities of sitecast concrete in trabeated forms of piers, slabs, and walls, or occasionally shell construction during the same chronological period. Regionalized brutalist manifestations adapted not only brutalism's ends but its means via local precasting techniques. This paper connects seminal brutalism from Europe and the Americas to the particularities of exposed concrete shaped through precasting in three Venezuelan applications: precast segmented vaulted roofs, precast capital-like cruciform elements atop columns, and precast units in combination with prestressed or waffle slabs employed for the qualities of materiality imparted to the space below.

These concrete manifestations demonstrate the confluence of architectural trends understood as conventionally Western, along with industrial technologies developed on both sides of the Iron Curtain after 1945, and demonstrate the malleability of concrete's capacities, appropriating industrial engineering for cultural and humanistic purposes. This presentation will be the first to use new interviews, archival texts and visual materials associated with those involved in the work to illuminate the relationship of design intent and local constraints to cultural and industrial contexts.

PS10 Brutalism in the Americas: North-South Connections
Carlos Eduardo Dias Comas, Federal University of Rio Grande do Sul, Brazil and Ruth Verde Zein, Mackenzie Presbyterian University, Brazil, *Session Co-Chairs*

The X ism: Latin American Brutalism in Connection

Horacio Torrent
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The historiography of Latin American architecture frequently considers the reproduction of new architectural and urban ideas and forms, without conflicts. But not many cases can be viewed as mere reproductions or appropriations of the European experience. In the case of the architecture of the Brutalism, the originality is the main topic of the proposals, (such as in ECLAC Building in Santiago de Chile, or in the Bank of London and South America in Buenos Aires) trying to make a difference with the European experience.

As Banham define the form X-ism became commonplace, and measured the handiness with the historical method during the early nineteen fifties. The new brutalism was defined because of the formal legibility of the plans, the clear exhibition of the structure and the valuation of materials for their inherent qualities as found. Somehow, some Latin American buildings betrayed structural exposure, while others changed the formal legibility of the plans, by the scales involved in the construction of the idea of the great city

The paper will examine the connections of the Latin American Brutalism, especially in the case of Chilean architecture, which was the only present in Reyner Banham's book; and will be examined in relation to the urban models that promoted, the scales of the proposals, and its material expressions, considering discourses and narratives about the relationship between cities and architecture, as a main topic of that time.

PS11 The Printed and the Built
Mari Hvattum, Oslo School of Architecture and Design, Norway, *Chair*

Exhibition, Catalogue, Review: Promoting a New Berlin in 1901

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Ludwig Hoffmann, Berlin's chief city architect, was a master of publicity. This talent came in handy to appease the public, impatient with the fact that many of his municipal projects remained incomplete or even unbuilt.

In response, Hoffmann did not speed up the design and construction process. Instead he devised a publicity campaign centering on the dazzling 1901 Exhibition of the City of Berlin at the Great Berlin Art Exhibition, whose positive effects were guaranteed by the printed matter associated with the event: the exhibition catalogue and the reviews in the popular press. Lists had characterized academy catalogues in the eighteenth and nineteenth centuries: hierarchical lists of artists provided the structure for an often endless list of artworks. Texts including colorful descriptions and critical essays had accompanied the most important projects but eventually disappeared. Hoffmann transformed the catalogue in structure and content. The items on the list became explanatory labels for both the project and the objects on display and, seizing on the earlier texts, he turned attention toward buildings by offering descriptions of the program, experience and character for each. In addition, the catalogue included a map locating the projects, suggesting that the catalogue today would be a guidebook to buildings tomorrow. The reviews in the popular press replaced reports of the exhibition highlights with discussions of the exhibition as a political proposition. Most critics supported the physical transformation of the city and sought to convince taxpayers that Hoffmann's work was worth the wait and the money. A discussion of the printed matter underscores the significance of Hoffmann's exhibition as an example of how attention to a general audience reshaped the exhibition and its public role. In addition, a focus on the variety of media allow for a nuanced discussion of the exhibition itself.

PS11 The Printed and the Built
Mari Hvattum, Oslo School of Architecture and Design, Norway, *Chair*

Printing Ancient Polychromy

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Color print visually disseminated Ancient Egyptian and Greek architecture through the long nineteenth century. This paper traces the visual communication on ancient monuments over several stages: from first hand drawings of archaeological findings to their scholarly publication, and finally their popularization towards and beyond the end of the nineteenth century.

The primary sources on ancient architectural polychromy are the color findings, which the first expeditions and excavations in Italy, Egypt and Greece brought to light: structures with splendid wall paintings, colorful reliefs and "gaudy" architectural decoration. Their documentation soon became the basis for a fierce debate on the use of color in art and architecture because they challenged and changed the fundamental aesthetic conception of the time. This sparked the advancement of color printing, which then celebrated ornaments in pattern books and compendiums for the bourgeoisie. In the final stage, the thus compiled images found their way into the public perception of antiquity for example via trade cards, a mass medium vastly stimulated since 1875.

By understanding the contemporary visual media as transmitters of aesthetical propositions, the presented project analyses

- the visual environment of the epistemic process and its material basis (printing techniques, colorant production, etc.)
- the spreading of knowledge within the architectural and scholarly communities (drawings, exhibitions, etc.)
- the popularization of the results via the contemporary color printing media (compendiums, trade cards, etc.).

Understanding the history of the idea of polychromy from the original color findings to their public dissemination offers a new perspective on the reception history of ancient architecture and its interaction with the forming of identities in the long nineteenth century.

This paper is part of a project initiated through ETH Zurich, Institut für Denkmalpflege und Bauforschung and jointly carried out by analytical chemists, geo scientists and architectural historians (Bauforscher).

PS11 The Printed and the Built
Mari Hvattum, Oslo School of Architecture and Design, Norway, *Chair*

The Pioneering Architectural History Books of Kugler and Fergusson

Petra Brouwer
University of Amsterdam, Amsterdam, The Netherlands

This paper focuses on the first architectural history books of Franz Kugler, *Geschichte der Baukunst* (1856-59), and James Fergusson, *The illustrated Handbook of architecture being a concise and popular account of the different styles of architecture prevailing in all ages and countries* (1855). While today the canonical images and histories in architectural surveys are regarded as clichés that confirm dominant values and established practices, this paper argues that at the time of its invention it was a reflective and dynamic genre. Conscious of the pioneering nature of their architectural history books, both Kugler and Fergusson accounted extensively for their method in their introduction, references and main text. They compared the genre with existing ones (monograph, parallel, dictionary, encyclopedia, tourist guide); reflected on the apparatus of the handbook (such as index, illustrations and primary sources); pondered the (architectural) public's lack of specialized or popular knowledge; distinguished architectural history from other disciplines such as art history, (cultural) history and archeology, and finally, defined important terms such as ‘monument', ‘art', ‘development' and ‘style'. The dynamic character of these books is reflected by the constant reworking of the narrative and illustrations in successive publications and re-editions.

The key questions of this paper are: How did Kugler and Fergusson motivate the need for the new genre of architectural history books? What distinguished the architectural history book from other architectural publications? What buildings were included in the newly constructed architectural canon and what determined their value? What strategies did the authors develop to communicate the new architectural historical knowledge to a diverse public, given that their books were aimed at professionals as well as a more general public?

PS11 The Printed and the Built
Mari Hvattum, Oslo School of Architecture and Design, Norway, *Chair*

The Public Building: Competitions in the British Press, 1836-57

Anne Hultzsch
University College London, London, UK

‘The public was glad to hear': In the *Illustrated London News* (*ILN*), the world's first illustrated weekly, reader and author often merge into what is called ‘the public'. This paper traces the emergence of this newly shared voice and its increasing influence on the built environment in the mid 1800s. By contrasting the press coverage of two architectural ‘events', the competitions for the new Houses of Parliament in 1836 and for the new Government Offices, including the Foreign Office, in 1857, it explores the transition of the press from instructive to ostensibly vocalizing medium.

John C. Loudon's *Architectural Magazine*, Britain's first paper dedicated exclusively to architecture, covered the competition for the new parliament while, two decades on, the recently founded *ILN* painstakingly laid out to readers the development of the designs for the new Government Offices in Whitehall. Both schemes were of highly political national importance and both were at the centre of the so-called battle of the styles - with stylistically opposite outcomes. Importantly, both publications pursued a very particular aim in regards to their readership. While Loudon, more famously the author of *The Encyclopedia of Cottage, Farm, Villa Architecture* (1834), attempted to educate the public's - and thus the client's - taste, Henry Ingram, the editor of the *ILN,* fostered the emergence of a more visually - and thus architecturally - literate readership through a new dynamic simultaneity of word and image.

Through a close reading of a set of articles, this paper explores relationships between author and reader as well as between news making and public taste in the realm of architecture. Focusing on the critical representation of architectural events, it explores both common-interest and special-subject publications as well as the ways in which their specific audiences contributed to the constitution of a new urban public.

PS11 The Printed and the Built
Mari Hvattum, Oslo School of Architecture and Design, Norway, *Chair*

Utopia, Printed

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The middle decades of the nineteenth century saw the emergence and circulation of myriad utopian plans in the United States. Ralph Waldo Emerson observed in 1840 that every “reading man” had a “draft of a new community in his waistpocket.” He might better have said every printing man, for many of the designers of such utopian plans were, not coincidentally, printers by trade. While historians have long observed the close affiliation between printers and political radicalism in early America (think of the revolutionary tract-writer Thomas Paine), the connection to nineteenth-century architecture has received far less attention.

This paper surveys the links between utopian urbanism, printing, and radical politics in nineteenth-century America by focusing on three figures—Lewis Masquerier, Orson Fowler, and Josiah Warren. All three were printers or publishers by occupation (Fowler’s firm was one of the most prolific popular publishers in New York City), and all created utopian urban plans that they propagated using the tools of their trade—handbills, pamphlets, magazines, and books. Printing was a crucial rather than incidental element of their urban-architectural projects; it was the means by which their reformist schemes would be disseminated and realized. Warren, for example, who is often called America’s first homegrown anarchist, invented a new kind of printing press intended to reduce costs and enable every man to be his own printer. Like the other two figures, Warren eschewed finely detailed architectural drawings of his proposed city in favor of rough, woodcut plan diagrams that could be quickly reproduced and distributed.

Examining the work of these three radicals-cum-aspiring-urban designers suggests an expanded horizon for those interested in nineteenth-century architecture’s relation to printing, one that extends beyond building manuals and architectural treatises to encompass a wider context of popular, print, and political culture.

PS12 Open Session Two
Elisha Ann Dumser, The University of Akron, *Chair*

The Iconography of Municipal Power in Late Medieval Barcelona

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For the first one hundred years of their existence, the city councilors of Barcelona held their meetings in public spaces, most often in a chapel they built within the Dominican church of Santa Caterina. In 1369, in a moment of crisis and in opposition to a verdict put forth by an Inquisition held in the church, the city councilors realized the imperative of establishing their own meeting hall, set apart from the influence of the church. Although the city council was an organization sanctioned by the king, the council's authority within the city was initially weak and not trusted by certain sectors' of its citizens. A campaign to develop public works in the city over time proved the city council's intentions of exercising 'government for the public good'. However, it was the creation of Barcelona's first city hall that truly solidified and empowered the city council's identity in relationship to the king, the church, and Barcelona's citizens. Yet more expediently, the creation of public ritual celebrations, in the manner of royal and ecclesiastical customs, occurring in the small plaza before the city hall, and within its council hall, helped to popularize the city council's image. These ritual spaces were enhanced by scenographic choreographies of statuary which displayed messages of alliance with king and church. Borrowing from established protocols for the ornament of royal and ecclesiastical architecture, both the building's design and its architectural sculpture ingrained in its viewers a message of municipal 'auctoritas y potestas' sanctioned by king and church. This paper delineates the role that architecture and its imagery played in the process of building an identity for an institution within its community.

PS12 Open Session Two
Elisha Ann Dumser, The University of Akron, *Chair*

Reconstructing the Proto-Doric Temple: An Etiologic Approach

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The forms of the Doric column and entablature have remained virtually unchanged since the first stone temples were erected in the 7th century BCE. While the various details are clearly intended to evoke earlier wooden structures, attempts to reconstruct the original carpentry remain unconvincing on many levels. Difficulty in interpreting Doric forms goes back to the Roman architect Vitruvius (IV, 3), and even before him to architects of the Hellenistic period. While some advances have been made in the study of 'pre-petrification' temples (Rhodes; Gebhard & Hemans; Barletta; Mazarakis-Ainian), the purpose of many of the most characteristic details of the Doric system remains uncertain. As a result, current scholarship tends to assume that the builders of the first stone temples imitated carpentry merely in generic terms, fudging details and overlooking formal and conceptual incongruities for the sake of visual effect (Coulton). The problems of interpretation arise from erroneous assumptions made by Vitruvius and the misleading association of the forms of the entablature with the peristyle colonnade. This presentation will demonstrate that Doric details can be entirely explained in terms of techniques known to ancient builders. Using archaeological, art-historical, literary and epigraphic evidence, and with the help of analytical scale models, it will be shown that Doric buildings were originally plain-walled structures employing three-fold built-up beams supported by a row of central columns. The beams ensured verticality in columns by bracing them in a manner that also permitted lateral and rotational movement in response to earthquakes. This ingenious structural system, which was reinforced by carefully contrived bronze fittings, perfectly explains the distinctive forms of the Doric entablature and column capitals. The paper will also demonstrate that the characteristic use of red and blue colors in later stone entablatures replicates copper flashing and fungicidal paint applied where end-grain was exposed in wooden members.

PS12 Open Session Two
Elisha Ann Dumser, The University of Akron, *Chair*

The Picturesque Gothic Villa Comes to Town

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A modification of A. J. Downing's "Plain Timber Cottage Villa" remains the most ubiquitous vernacular of Toronto's 19th century neighborhoods. As site specific as the Brooklyn brownstone is to Park Slope, or the bow-front to Boston's Back Bay, in Toronto architects and builders adapted the highly flexible picturesque gothic villa form into a polychrome brick semi-detached and terraced house urban typology well suited for lot widths ranging from 25 down to 13 feet in width, resulting in the city's most common house design of the late 1870's and 80's. The impacts of mass production and technology in combination with their inexpensively customized facades made them well suited for dense speculative development, and resulted in a highly successful practical vernacular response unique to this region, emergent from the locality's constraints.

This paper seeks to answer how and why this resultant form came to be such a successful component of this city's streetscape, and the economic forces shaping that urban expansion. First it establishes the architect-designed prototypes and immediate predecessors that influenced its emergence, and the dissemination of those buildings and forms through the contemporary press. It examines the technological innovations, construction details, materials, and layout variations inherent to the typology, and the collective flexible responses to lot width, orientation and escalating property values, while tracing the shortcomings of the buildings and how they were altered over time to suit changing needs. Through comparative analysis of maps and drawings contemporary to their construction, this paper identifies the urban form created by these buildings, overlaid with the results of recent archaeological research, and structured within the political underpinnings of the Toronto lot layout. And finally this paper seeks to explain why the clothing of this building found its form in gothic, and the role of style in contributing to its success.

PS12 Open Session Two
Elisha Ann Dumser, The University of Akron, *Chair*

The Construction is the Message: Building in Augustan Rome

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The Roman emperor Augustus boasted he transformed Rome from a city of brick to one of marble. This heavy, expensive stone conveyed strength, endurance, wealth, a thriving economy, and cultural sophistication. Yet it wasn't just the medium that was the message. The crisply carved and fitted ashlar blocks and monolithic columns reinforced a calculated propaganda.

As early as Homer's Illiad the ancients associated precisely cut masonry with power, order, and organizational prowess. Augustan art depicted deities overseeing construction of city walls with dimensioned blocks, affirming that great things were possible with shared effort and divine sanction. Augustus positioned himself as heir to the great city builder Aeneas, unifying the many citizens into a "restored" Republic just as an architect bonded precisely cut individual stones to form a unified structure. At Rome, orthogonal marble blocks contrasted with the roughly edged tufa stones and small bricks in earlier structures. Though visually powerful, the "ashlar" on most Augustan buildings was in fact fake, represented by incisions carved on surface revetment slabs.

In contrast, porticos with monolithic columns truthfully asserted the solidity of marble construction. These colonnaded structures were second only to temples in number among Augustan buildings in the capital city. Columnar rows unified street fronts, surrounded and appropriated pre-existing buildings, and isolated new environments from external visual contamination. While simple to erect, porticos drew attention for their uprights, each carved from a single stone. Monoliths were costly to quarry and transport, their value affirmed by taxes imposed to deter private luxury. The proliferation of marble monoliths reflected improved shipping conditions, standardization of sizes, and above all the emperor's generosity in providing marble environments for the entire populace. Construction itself communicated. Expansive stockpiles of columns, parades moving heavy pre-carved cylinders, and workers finishing hard, glistening stones continuously advertized the "marble-ization" of Rome.

PS12 Open Session Two
Elisha Ann Dumser, The University of Akron, *Chair*

On the Political Impact of Temple Design in Republican Rome

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A conservative estimate places roughly 80 public temples in Rome by Julius Caesar's time. The standard account of these buildings is based in formal analysis: in the early Republic architects preferred central Italic schemes, and as Greek influence seeped into the city through South Italy and then through Roman conquest, Greek designs grew prevalent. Drawing on an extended study of architecture and politics in Republican Rome, this paper suggests a more complicated story: it argues for a reading of Roman temples against the backdrop of the furiously competitive climate that engendered them. Through their myriad forms, these buildings exerted a powerful impact on political life.

This paper explores the evolving roles of religious architecture in the cityscape. In the early Republic, monumentality, frontality and relative homogeneity helped to shore up patrician authority at times of plebeian discontent; by the late fourth and third centuries, the struggle of plebeians and low-status patricians to assert the values of a new nobility was fought and answered through a modern South Italian/Greek aesthetic. Foreign conquest in the second century inspired a spirit of experimentation, when Greek design and materials, fused with Roman schemes or imported wholesale, projected a new vision of power, where the relationship between the people and their benefactor was unmediated; its authority jeopardized, the senate reacted with novel temple designs to control public behavior, a practice that grew more pronounced after the suppression of the Gracchi. At this time, the introduction of concrete allowed for adaptations of space and landscape on an unprecedented scale. By the end of the Republic, temple construction became the domain of the few: Pompey, then Caesar, dominated religious life, using temple design to communicate a special intimacy with the divine that buttressed their aconstitutional authority.

PS13 Time, Transformation, and Textuality in African Architecture
Michelle M. Apotsos, Williams College, *Session Chair*

Redefining the Mellah *of Fez in the Twenty-First Century*

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This paper examines the *mellah*, the former Jewish quarter, of Fez, Morocco. With architecture that is neither modern nor historic, the quarter in an anomaly in a city praised for its "living" medieval qualities. More than any other district in Fez, the mellah has recorded arrested twentieth-century modernization attempts. Its urban fabric destabilizes the dominant narrative of Fez as an iconic Muslim city by revealing uncomfortable histories of segregation, colonial violence, prejudice and neglect as well as provocative examples of transculturation and endurance. I consider the ways in which the mellah's current incarnation celebrates its Jewish past, reflects the failed experiments of French colonization (1912-1956), and partially meets the needs of its currently Muslim inhabitants.

Examination of the current pressures facing the built environment of the mellah underscores the challenges of heritage preservation and identity construction. Following the designation of Fez as a UNESCO World Heritage Centre in 1981, the dearth of preservation efforts in the mellah highlights sustained ambivalence towards it. Since the 1990s, only the two largest synagogues have been restored. The politics surrounding these two restorations point to the reclamation of the quarter's Jewish past, but any benefit these projects may offer to current Muslim residents remains to be seen. Unstable, economically disadvantaged and rarely a destination, the mellah is a non-place, but it is not dead. Institutional neglect inadvertently preserved colonial-era structures not found in other parts of the historic city, exposing loopholes and inconsistencies in urban policies on heritage preservation. Analysis of the multiple identities inscribed within the mellah will help to redefine Fez in the twenty-first century and better acknowledge the complexities of its past.

PS13 Time, Transformation, and Textuality in African Architecture
Michelle M. Apotsos, Williams College, *Session Chair*

Part of Who We Are? Creative Re-use in Morocco and Algeria

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What determines the phases of a building's life – especially whether it will be restored, torn down, or creatively re-used – as the society around it changes? This paper presents a North African case study in response to this pertinent question. I look at buildings recently given new life in two cities. In Casablanca, Morocco, I look at the city's 1923 slaughterhouse, for example, slated to become a 'culture factory'. In Oran, Algeria, I discuss a 1708 Turkish bath, which became in 1843 a French military hospital, and is now a school for artisans. Popular associations, operating within radically different political orders, rescued these sites from the same fate: extreme dilapidation and squatters. This exploration of creative reuse takes place in a part of the world where change is frequently referred to as "rupture," that is, as damage inflicted by the 'alien' on the 'authentic' local. I conclude by suggesting that creative reuse of old buildings encourages, on the contrary, popular acceptance of both social change and foreign influence as natural events, and thus "part of who we are."

PS13 Time, Transformation, and Textuality in African Architecture
Michelle M. Apotsos, Williams College, *Session Chair*

Things Fall Apart: Igbo Mbari and the Phenomenology of Time

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It is the nature of Igbo mbari to fall apart. It is simply what they do. Or, more accurately, it is simply what they are meant to do. Made from the land—from mud and the clay of anthills—these structures are ultimately meant to return to it. Upon their completion, their repair or alteration is strictly forbidden. And thus, within a few short years, each mbari inevitably collapses, succumbing to the forces of wind, rain, and the ever-advancing forest.

Exploring this process of mandated disintegration and the role that new materials and building techniques play in it, this paper establishes a link between the mbari architectural tradition and an Igbo phenomenology of time. Drawing on the local histories of Owerri, the work performed by scholars of Igbo art, and recent theories on the nature of time in Africa, I make the argument that the intentional ephermerality of mbari—a characteristic reflected in each structure's material composition and the tradition and rituals associated with it—exposes a local conception and experience of time that is far different from the teleological progression embraced by Western modernity. Indeed, by examining the changes and continuities in mbari and mbari production during the first sixty years of the twentieth century, what becomes clear is that time in this area, rather than existing linearly, instead, exists simultaneously. Past, present, and future are, in short, constantly present and constantly in dialogue.

PS13 Time, Transformation, and Textuality in African Architecture
Michelle M. Apotsos, Williams College, *Session Chair*

Hidden Spaces: New Migrant Trading Places in Cape Town

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Cape Town has a long history of migration, yet the architectural history of the city is representative of only a small and racialized part of the population. Some of these alternative histories have emerged in post-apartheid South Africa in an attempt to redress apartheid injustices. In contemporary studies these have focused on Johannesburg, largely overlooking the city of Cape Town. One prominent example surfaced in the discovery of a slave burial site in the city centre, which revealed the historical presence of non-white citizens within what has dominantly been depicted as a 'white' space. This particular case led to the emergence of several other stories of 'hidden' graves, lost title deeds, and silenced stories - a world of 'hidden architectures' within the city. This paper argues that the production of 'hidden architectures' continues in the contemporary context with new African migrants to Cape Town, particularly evident in trading spaces. Since the end of apartheid, South Africa has seen increasing African migration, along with growing xenophobia targeting black African migrants, and thereby continuing the racialised understanding of migration in the country. It further suggests that these new migrant spaces mirror older patterns in the city, acting as exclusive or 'hidden' public spaces for the groups they serve. This is evident in the materiality of the small appropriations and adaptations of space, which respond to the city and 'home' elsewhere on the continent. Contemporary trading spaces are exemplary 'hidden' publics. As the primary means of income for most new entrants, these transactional spaces often exceed commerce to accommodate both the domestic and sacred. Through an ethnography of new African trading spaces in Cape Town, this paper contributes to the debate on African architecture and its relations to globalization through migration.

PS13 Time, Transformation, and Textuality in African Architecture
Michelle M. Apotsos, Williams College, *Session Chair*

Legacies of Impermanence in Old Calabar

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On July 4, 1786 Duke Ephraim, the *obong* or leader of Duketown ward died in the trading port of Old Calabar on the Bight of Biafra. What followed were months of ritualistic human sacrifice, destruction, and funeral obsequies. The Efik slave trader Antera Duke and British sailor Henry Schroeder recorded the details of the events in their diaries. While these are invaluable sources, the characteristic demolition of the property of great trading leaders after their death during the eighteenth and early nineteenth centuries in Old Calabar presents a challenge for scholars tracing the history of the city's built environment.

Though scholarship exists documenting Old Calabar's multi-ethnic and cosmopolitan history as a trade port, it often neglects the centrality of architecture in the process of articulating the city's political and cultural values. The architectural form of "traditional compounds"-rectilinear, multi-room, wattle and daub complexes-appears in several written sources though often in dualistic terms. European accounts from the period tend to denigrate and exoticize them, while postcolonial scholars idealize them as unified, communal spaces. Without preserved sites or visual documentation are these compounds mere rhetorical constructions?

Complicating matters, the ensemble of spaces constituting Old Calabar's urban context have often been described as autonomous, decentralized, informal, ad hoc, impermanent, and thus "elusive" from the standpoint of the architectural historian. The presumption of autonomy, however, belies the contested politics and multiple influences organizing these fragmented zones. Incorporating indigenous and European forms, these hybrid spaces of encounter served as instances of what Duanfang Lu has called "entangled modernities". This paper contends there are historical congruencies in these spatial disjunctures. It examines the dynamics of destruction and renewal from a variety of intertwined perspectives in the context of Old Calabar during the slave trade and the transition to a palm oil economy.

PS14 Sound Modernity: Architecture, Technology, and Media
Olga Touloumi, Bard College and Sabine von Fischer, MPIWG, Germany, *Session Co-Chairs*

Frank Lloyd Wright's Sound Modernity

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Despite the extensiveness of scholarship on Frank Lloyd Wright the degree to which sound was integral to his life and work has been significantly under-studied. Sound, as the spoken word, as music, and in nature, was at least as important to Wright as painting was to Le Corbusier. This presentation begins with a brief account of Wright's immersion in music under the direction of his father, a music teacher, composer, and sometime violin maker, and his subsequent exposure to architectural acoustics under the tutelage of Dankmar Adler. The impact of these formative experiences will be made evident in reference to a number of Wright's own buildings in which sound was innovatively managed. While always salient, Wright's treatment of sound cannot be separated from the totality of his architecture. Wright's thinking was incubated in Unitarianism, Transcendentalism, and nature but it was matured in the developing world of Modernism as a thoroughly embodied practice. In creating the prairie house Wright succeeded in redefining domestic space by calibrating it to the experiencing body. In opening the interior spaces of his prairie houses Wright rejected the enclosed rooms of the past in favor of a radical spatial freedom, but in so doing he invited the possibility of random, intrusive sound. The measures that Wright took to modulate sound in the prairie house – shaped ceilings, lowered ceiling heights between spaces, the lateral extension of the plan, textured wall surfaces – functioned in concert with the experiencing subject's visual, kinesthetic, and tactile senses for an effect that Wright described as "a domestic symphony." Wright's domestic spatial modernity may have opened the box for modernists but to his consternation the European modernists of the 1920s abandoned Wright's meticulous attention to subtly modulated sonic spaces in favor of minimalist spaces too often defined by highly reverberant surfaces.

PS14 Sound Modernity: Architecture, Technology, and Media
Olga Touloumi, Bard College and Sabine von Fischer, MPIWG, Germany, *Session Co-Chairs*

Catacoustic Enchantments: The Romantic Invention of Reverberation

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At the dawn of the nineteenth century, a handful of German architects and scientists became intensely concerned with new theories of building acoustics, as they calibrated theaters and opera houses to create sonic environments conducive to an emerging bourgeois culture. Their work suggests that the auditory dimension of built space was assuming increasing importance in the sociocultural milieu of a modernizing Europe. This paper examines the theoretical study of acoustics undertaken by architect Carl Ferdinand Langhans in reaction to public criticism of Berlin's National theater, built by his father in 1802.

The younger Langhans's research culminated in his new account of reverberation, the phenomenon of sonic "blurring" which occurs when sound waves bounce off a distant object but return to the listener quickly enough that they cannot be identified as a discrete echo. Since the distinction between echo and reverberation depends entirely on this psychophysiological limitation of human perception, Langhans's discovery signals a new architectural appreciation for subjective spatial effect as the ultimate product of architectural creation.

This appreciation is also manifest in the same architect's parallel interest in tableaux vivants and panoramas, both of which are immersive environments for the theatrical evocation of virtual worlds. The range of aesthetic and technological interests represented in Langhans's oeuvre suggests that a significant motivation for German acoustical research was a Romantic interest in reenchantment, linked with bourgeois fantasies of history, travel, and the exotic—fantasies which have been enduring components of cultural modernity. This paper on the architectural history of reverberation forms part of a larger project to consider how such intangible spatial effects, which appeal to the subject on an ostensibly prereflective level, might be formalized as objects of critical reflection.

PS14 Sound Modernity: Architecture, Technology, and Media
Olga Touloumi, Bard College and Sabine von Fischer, MPIWG, Germany, *Session Co-Chairs*

BBC's Broadcasting House in London: Encasing Electronic Orality

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Alan Weiss, associates broadcasting's annihilation of the body with a unique kind of alienation. The externalization and eternalization of voice in a technological mechanism, Weiss notes, has become "the new symbol of the body ruled by technology without divine intervention." Samuel Weber, in turn, highlights that radio's "artificial" means to overcome the "natural" deficiencies of the body overcome nothing but the body, or more precisely, the spatial limitations placed by the body upon hearing and seeing.

But the pioneering generation of the BBC was undeterred by broadcasting's fragmentation of the self, dispersal of perception, and undermining of our ways of making sense of the world. Inspired by the pedagogic and democratic promises of the medium, from 1927 to 1945, they turned radio into a "wireless university." They saw themselves as continuing into the twentieth century the legacy of Victorian institutions devoted to the cultural education and "uplift" of the public. However, this humanist impulse of the historical actors was met with resistance by the technological impulse of the medium. Nowhere is this confrontation more vividly demonstrated than in the architecture of Broadcasting House, a purpose built radio station for the BBC.

This paper proposes to study the design of Broadcasting House. It was built in London in 1932 and designed by architect George Val Myer. A factory for the production, packaging, and distribution of electronic and post-typographic sound, I argue, it is best understood as a face-off between the BBC's desire to subjugate the medium to humanist and ontological beliefs, and the medium's inclination to negate precisely those beliefs.

PS14 Sound Modernity: Architecture, Technology, and Media
Olga Touloumi, Bard College and Sabine von Fischer, MPIWG, Germany, *Session Co-Chairs*

Sound Medicine: The Acoustic Environment of the Modern Hospital

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The twentieth-century hospital encountered two categories of sound that appeared troublesome. First was a kind of noise generated by city life, and second was a kind of soundscape generated by hospital life. In both cases, the acoustic environment was described and notated as an effect on patients, who, ill and immobile, were subject to sounds in a way that put the patients' health and recovery at risk. In both cases, the solution to sound problems in the hospital was seen to be cultural and material, not medical. The difficulty was that physicians had no especial training to address the effect of sound on patients' bodies. Sound and noise escaped the remit of medical expertise, and hospitals instead relied on a weak disciplinary injunction to silent comportment. This left sound as a matter for the medical environment rather than for medical intervention. In short, sound medicine was architectural.

This paper looks at the twentieth-century modern hospital as an institution with particular acoustic environments, modified and shaped by architectural responses to the perceived problem of sound. I explore the emergence of noise on the inpatient ward as an architectural research topic, especially in the groundbreaking studies of the Nuffield Provincial Hospitals Trust (ca. 1955), and the identification of the emergency ward as the hospital's signature acoustic environment. Using published studies of architectural acoustics, prescriptive advice from hospital specialist architects, and evidence from documentary films, I argue that the engagement with sound is an underemphasized yet key architectural characteristic of the modern and postmodern hospital.

PS14 Sound Modernity: Architecture, Technology, and Media
Olga Touloumi, Bard College and Sabine von Fischer, MPIWG, Germany, *Session Co-Chairs*

Building Public Radio in Postwar Canada

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This paper examines the intersection of modern architecture and the development of public radio in Canada from 1945-1952. Architecture was essential to the success of the Canadian Broadcasting Corporation (CBC), both in terms of its operations and in amplifying its visual presence in the built environment. The architecture emblemized public culture, introducing modernism in some regions of the country, meanwhile helping to produce the space of radio publics. Transmission sites and broadcast studios reshaped the soundscapes of public life, bringing into North American houses and automobiles entertainment and news. Following the Second World War, the solidification of the CBC as a national service was confirmed with the construction of modern buildings across the country, designed by its own architecture and engineering department. This paper will focus on the transmitters and studios built in the years immediately after the war, showing how the building of radio infrastructure not only strategically promoted a postwar sense of national community across the vast stretches of the country at the outset of the Cold War, but also may have contributed to suburban culture. The paper illuminates the overlooked presence of radio in the built landscape and adds to recent scholarly interest in studying media houses, as Staffan Ericson and Kristina Riegert's recent book on the subject attests. I contend that the architecture of radio was instrumental in the development of modern, mediated publics in the mid-twentieth century.

PS15 Vernacular Chicago: Architecture in the City Of Broad Shoulders
James Michael Buckley, Massachusetts Institute of Technology and Marta Gutman, City College of New York, *Session Co-Chairs*

Aesthetics and Action: Developing High Schools for Chicagoland

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During the first decades of the twentieth century, cities and towns throughout the United States struggled to create viable high schools. For architects in Chicago, the problem was especially complex since they were compelled to introduce a twentieth-century innovation into crowded, already developed nineteenth-century urban landscapes. The pioneering architects simply could not escape difficult design problems since new high schools by necessity were built in populated sections of the city. Despite these obstacles, local architects like Dwight Perkins and Alfred Hussander contributed to a national movement to develop methods for designing secondary schools. By 1920, they established common standards and practices for designing the modern comprehensive secondary school, a remarkably innovative structure whose amenities included provision for activities ranging from science classrooms and laboratories to public auditoriums and athletic field houses. The attractiveness and intelligence of these designs encouraged the rapid expansion of secondary school populations scattered in neighborhoods, towns, and villages throughout the metropolitan region. By 1940, the high school was an institution that served all classes of American youth while also serving as arguably the first gender-integrated white-collar working environment where men and women labored side by side in equal positions albeit for unequal pay. Suburban development was critical to the success of this movement since it allowed for construction of new schools in less developed areas of Chicagoland where land was less expensive and readily available. While high schools differed in status and quality, they shared basic features regardless of class. As a consequence, the comprehensive high school was an innovation that crossed an enormous social barrier. It transformed childhood by making the adolescent experiences of the middle and working classes in Chicago for the first time different more in degree than in kind.

PS15 Vernacular Chicago: Architecture in the City Of Broad Shoulders
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Doing Density: Chicago's Courtyard Apartments And Bungalows

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Between 1900 and 1930 Chicago's population more than doubled, from 1.6 million to 3.3 million residents. Architectural historians often settle upon downtown commercial skyscrapers and an alluring group of stylistically notable single-family houses dotting the suburban prairie as potent symbols of Chicago's growth and economic development. This paper will pivot to two residential vernacular forms, the courtyard apartment and the bungalow, which significantly accommodated the settlement of new residents in Chicago. Obvious social and architectural distinctions exist between privately-owned, single-family bungalows, and rented apartments. However, there are also important overlaps. Both forms tended to economically organize residential space on a single level, with living rooms and dining rooms adjacent and flowing into one another, reduced costs by cutting or eliminating interior hallway circulation, drew upon the regional production of brick, and both relied upon technologically modern systems of heating, electricity, and plumbing. Moreover, courtyard apartments, with their sun-parlors, balconies, individual porches, planters, and, most importantly, their landscaped, street-facing, courts, with trees, flowers, and greenswards, tugged upon suburban residential forms and rendered them central to higher density urban living. As the courtyard apartment accumulated density, it also diffused it. The pattern of separate entrances arrayed around the court, with stairways giving access to just two or three apartments per floor, gathered on three or four floors, effectively made the buildings seem like smaller, more suburban, aggregations of density then they actually were. Bungalow neighborhoods also compressed suburban elements while building density. Focusing on apartments in the Buena Park and East Rogers Park neighborhoods and bungalows in Schorsch's Irving Park Gardens, I will further explore the issue of density, suburban representations, and social class by using manuscript census material to look at the quantities and identities of people gathered on individual tracts of urban land.

PS15 Vernacular Chicago: Architecture in the City Of Broad Shoulders
James Michael Buckley, Massachusetts Institute of Technology and Marta Gutman, City College of New York, *Session Co-Chairs*

The Urban Vernacular in Early Mexican South Chicago

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Chicago has long been associated with European migration of the 19th and early 20th centuries, but over 1.6 million Mexican immigrants and Mexican Americans currently live in the Windy City. Mexicans entered neighborhoods created by earlier generations of migrants, the vast majority European. The vernacular architecture—the everyday buildings and planned spaces—in South Chicago have, in the most basic sense, maintained their original purposes after Mexican settlement in areas most recently vacated by Eastern and Southern Europeans. This paper focuses on the transitions in the new and "repurposed" vernacular. In other words, I examine how working--class Mexicans created or adapted the built environment and planned recreational spaces to best fit their needs. These spaces include the mills and industrial workplaces, the community centers and city parks, social clubs, churches, multi-flat buildings, boxcar camps, pool halls, homes and businesses.

Mexicans who came to South Chicago confined themselves to clearly demarcated everyday-life and workplace niches that aided the creation of a community where members changed their environment to help those in the community survive, persevere, and sometimes thrive. The physical conditions that awaited Mexicans in South Chicago were bleak at best. Aside from the solos who slept in clean but generic bunkhouses on steel mill property, or the railroad workers and their families who slept in metal boxcars in camps that dotted the landscape, most Mexican immigrants had little choice but to settle in zones of transition near the mills. By focusing on these physical and symbolic zones, especially in spaces marked by the vernacular, we can better understand one important method of cultural and physical adaptation.

PS15 Vernacular Chicago: Architecture in the City Of Broad Shoulders
James Michael Buckley, Massachusetts Institute of Technology and Marta Gutman, City College of New York, *Session Co-Chairs*

Storefront Museums and Pagodas: Memory and Place on Argyle St.

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Chicago's ethnic commercial streets have been celebrated as accommodating spaces for diverse needs and uses. Buildings and streetscapes are intimately involved in the branding and imagining of ethnicity for cultural, economic, and political reasons. During the late 70s and early 80s, Southeast Asian refugees were resettled in Uptown near Argyle Street, which had been proclaimed a "New Chinatown" by restaurateur Jimmy Wong and the Hip Sing Association in 1971. Their attempt to create a satellite Chinatown in an area marked by vacant storefronts, liquor stores, and bars was greatly aided by this population influx. The diverse nationalities of Argyle Street's residents, businesses, and customers, however, did not fit neatly under the Chinatown narrative promoted by Wong, and later by the Asian American Small Business Association (AASBA).

Through a reading of the vernacular architecture of Argyle Street, this paper illuminates the integral role of buildings and cultural landscapes for communities seeking a center in Chicago. As in most ethnic shopping strips, economic or political aspirations operate alongside deeply personal and collective desires for culturally meaningful places. I focus on two moments in the history of Argyle Street in which the built environment was a central actor in the articulation of community. The first moment highlights the AASBA's many efforts such as the Argyle Station pagoda roof (1991) to assert a "Chinese" identity for Argyle in spite of the increasingly Southeast Asian population. The second moment examines the Vietnam War's impact American cities through now defunct storefront Vietnam War Museum (1988-2000)'s socio-spatial relationship to the commercial strip. Finally, through an analysis of the relationship between locals and city politicians and planners, this paper addresses the question of demographic change and memory in the everyday built environment.

PS15 Vernacular Chicago: Architecture in the City Of Broad Shoulders
James Michael Buckley, Massachusetts Institute of Technology and Marta Gutman, City College of New York, *Session Co-Chairs*

Chicago's Postwar Suburban Churches: Vernacular, or Not?

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The Chicago suburbs are host to hundreds of midcentury modern houses of worship. With a focus on specific examples of the popular (and often disparaged) "A-frame" church, this paper will explore the question: Are these buildings "vernacular"? If so, what do we mean by that term? If not, how should we then define them?

A Frank Lloyd Wright meetinghouse may be undeniably the work of a high end "form giver." A small church assembled off the back of a flatbed truck might occupy the other end of the spectrum. But what about all those religious buildings that fall somewhere in the middle? Labeling a structure "vernacular" can call to a halt adequate analysis of the design and building processes of an era when common plans and manufactured materials were used by the entire spectrum of architects and requested by their clients.

This consideration of the A-frame church describes a web of influences--architect, congregation, place, denomination, other buildings near and far--that encompassed all church building projects. It argues the importance of finding terminology that allows for more than a simple distinction between common and uncommon. Language borrowed from consumer studies (innovators, early adopters, laggards, etc.) offers one way to further understand the differences between these buildings.

PS16 The Invaluable Indigene: Local Expertise in the Imperial Context
Peter Christensen, University of Rochester, and Igor Demchenko, Massachusetts Institute of Technology, *Session Co-Chairs*

China Gothic: "Indigenous" Church Design in Late-Imperial Beijing

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In 1887 the French ecclesiastic-cum-architect, Bishop Alphonse Favier, negotiated the construction of Beijing's most extravagant church, the North Church cathedral, located near the Forbidden City. China was then under a semi-colonial occupation of missionaries and diplomats, and Favier was an icon of France's *mission civilisatrice*. For missionaries such as Favier, Gothic church design represented the inherent *caractère Français* expected to "civilize" the Chinese empire. Having secured funds from the imperial court to build his ambitious Gothic cathedral, the French bishop enlisted local builders to realize his architectural vision, which consisted of Gothic arches, exaggerated finials, and a rose widow with delicate tracery above the front portal. Favier's episcopal coat of arms featured the dominant figure of Michael the Archangel surmounting his vanquished adversary, represented by the serpent; the implication of this imagery was not overlooked by local Chinese whose national symbol was the auspicious dragon. Beijing's new North Church was an architectural sign of the French Catholic ideal of the "Church Militant." Favier's "civilizing" vision was difficult for his native builders to visualize, however, and what resulted was an admixture of Chinese temple design and a towering Gothic structure that unsettled native literati who understood the church to be an emblem of foreign imperialism. The Beijing historian, Yang Jingjun, has described Favier's church as a "gothic construction that could not escape being prejudiced by Chinese design." This paper examines how the "local expertise" of indigenous "untrained" builders resulted in China's most compelling example of an "indigenous Gothic," a monument to French nationalism that appears almost defeated by the native sensibilities of those who erected the edifice. One scarcely finds today a Chinese description of the cathedral that does not emphasize the Chinese characteristics of the church's design that underscore the native tropes of its built heritage.

PS16 The Invaluable Indigene: Local Expertise in the Imperial Context
Peter Christensen, University of Rochester, and Igor Demchenko, Massachusetts Institute of Technology, *Session Co-Chairs*

Unsung Histories: Ottoman-British Networks of Industrialization

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Victorian-era British engineers' overseas exploits and their wide-ranging contributions to the history of industrialization are well-documented staples of the architectural canon. Hardly known, however, are the activities of their local counterparts—industrial partners, brokers, or bureaucrats—who instigated, led, or facilitated such enterprises in the host country. Using these historiographical omissions as a starting point, this paper problematizes how we construe the history of industrialization in dominant architectural narratives.

First, by probing representative industrial ventures forged by Ottoman and British agents in the mid-nineteenth century, the paper presents an intertwined story of industrialization, comprising a variety of agencies, negotiations and mutuality. Some of these enterprises, like Isambard Kingdom Brunel's forgotten, but groundbreaking, military field hospital in Renkioi, Dardanelles (1855), were driven by the British government's logistical needs. Others, as with prominent Ottoman industrialist Ohannes Dadian and renowned Scottish engineer Sir William Fairbairn's collaboration, were long and fruitful associations producing several new Ottoman state factories in the 1840s. And still others were initiated by local entrepreneurs, like the Smyrna Steam Flour-Mill Company, broadly recognized for its high performance Watt and Woolf steam engines (1849). Together these ventures fundamentally challenge narratives of linear and unidirectional technological modernization as well as those that privilege the end product as their object of study. They reveal instead a process of exchange, trial and error, locating industrialization in what Timothy Mitchell aptly termed "the reticulations of exchanges and production encircling the world."

Second, by engaging with networks, exchanges, and associations as essential dimensions of architectural history, this paper invites a reconsideration of what counts for evidence in our field. Beyond studying buildings and their established architects, it calls for identifying the networks within which such projects were conceived and the various actors who animated them, invoking Bruno Latour's notion of "a sociology of associations."

PS16 The Invaluable Indigene: Local Expertise in the Imperial Context
Peter Christensen, University of Rochester, and Igor Demchenko, Massachusetts Institute of Technology, *Session Co-Chairs*

King Njoya's Palace and Architectural Competition in German Kamerun

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The palace of King Njoya, built 1917-1922 by his subject Ibrahim Njoya, has generally been interpreted as a unique work of early twentieth century architecture in Foumban, Cameroon, but ultimately one that is derivative of the German governor's residence in the southern town of Buea. The throne room which lies behind the German-influenced façade, however, is a monumental version of the *sooro* - a pillared entry hall that became popular in the Islamic palaces of northern Cameroon in the early twentieth century. The use of the *sooro* suggests that King Njoya was as interested in expressing political relations with his Islamic counterparts to the north, as he was with the Germans. Indeed, further research suggests that even the adoption of German forms is more complicated than at first perceived. The impetus for adopting the German style may be due less to an emulation of the governor's palace than it was due to the prior adoption of the German style at other nearby palaces in the Cameroon Grassfields. At Bafut, the Germans themselves rebuilt the ruler's palace in 1908-1910. Soon thereafter, the ruler of Kom emulated the forms of Bafut's German-built palace in local materials. While these architectural innovations may have provided the immediate impetus for King Njoya's palace, one still must wonder about the direct model. New research points to models other than the governor's palace, in particular government buildings in the commercial capital of Douala as well as the so-called pagoda of that city's local ruler Manga Bell. In sum, while the Germans may have supplied architectural models for King Njoya's palace, albeit not the ones so-far presumed, the context for the popularity of the German style was one of architectural competition and innovation amongst local rulers, which was by no means introduced by the Germans.

PS16 The Invaluable Indigene: Local Expertise in the Imperial Context
Peter Christensen, University of Rochester, and Igor Demchenko, Massachusetts Institute of Technology, *Session Co-Chairs*

Gaikokujin and Giyōfū:Western Architecture in 19th-Century Japan

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With the restoration of the Meiji Emperor in 1868, Japan entered its Imperial phase. But in contrast to other 19th-century Imperial powers, Japan's Imperial ambitions were, initially, demonstrated not abroad but internally. Sakoku, the isolation of the country for over two hundred years under the Shōguns, had left an essentially medieval society suddenly exposed to the modern era. The rapid modernisation of the country was achieved by inviting to Japan Western experts, Gaikokujin, who would train the Japanese in Western arts and sciences and thus impart a knowledge base which would soon give Japan a standing equal to the other Imperial powers. In architecture, this was evidenced in the grand public buildings designed by the academically trained graduates of the new Imperial College of Engineering.

However, the great influx of Western traders and missionaries brought with it its own architecture which soon infiltrated the local vernacular. The result was known as Giyōfū, an architecture which mimicked Western-style architecture but relied on traditional construction techniques. This style was quickly adopted for the new building typologies such as schools, hotels and railway stations which signified the modernization of the country while domestic architecture remained essentially unchanged.

This paper shall contrast and compare the academic Western architecture of the Gaikokujin and their students with the Giyōfū architecture of the Japanese master builders. It shall describe the Western academic curriculum at the Imperial College of Engineering and the official architecture it produced. It shall also demonstrate how, through the use of printed design guides, Giyōfū architecture copied the salient features of Western classicism while combining it with traditional Buddhist and Shinto influences. Thus it shall question whether the Westernisation of Japanese architecture was an Imperial, top-down process or an indigenous, bottom-up form of expression, and suggest what the eventual outcome was.

PS16 The Invaluable Indigene: Local Expertise in the Imperial Context
Peter Christensen, University of Rochester, and Igor Demchenko, Massachusetts Institute of Technology, *Session Co-Chairs*

Cultures in Contact: Restoring Istanbul's Water Supply

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In the 1850s, the crucial parts of the water infrastructure in Istanbul were nearing a state of collapse, and complaints of deficient and bad water supply were of constant occurrence in the city's daily newspapers and ordinances. Therein we find the Minister of Istanbul's Waterworks (*su nâzırı*), Tevfik *bey* (d. 1859/ H. 1276), anxiously attempting to solve the urgent problems of the city's water supply. His solution opened up one of the first corporate and institutional encounters between the Ottoman Empire and Europe. The scarcity of local capital led Tevfik *bey* to borrow money from Austro-Hungarian and French financiers for the rehabilitation of the dilapidated water supply infrastructure of the Ottoman capital city. These foreign investors also sent hydraulic experts and engineers for the adoption of new technologies. Drawing on archival materials and contemporary newspapers, this paper will examine the cultural, social and technological aspects of the continued encounters of a cadre of foreign hydraulic experts and local personnel, entrepreneurs and traders, and elites and non-elites in Istanbul during the second half the nineteenth century. By focusing on the relationship of this nineteenth-century Istanbul case to broader political and social processes, this paper seeks to facilitate historical comparisons between the mutual constitution of the indigenous knowledge systems and technology, collective autonomy and expertise, and natural resources management and urban life unfolding in the Ottoman empire during the nineteenth century.

PS17 From Drawing to Building – Reworking Architectural Drawing
Desley Luscombe, Univesity of Technology Sydney, Australia and Andrew Benjamin, Monash University Melbourne, Australia, *Session Co-Chairs*

"The Art of Shaddowes": the Baroque of Hawksmoor

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This paper focuses on drawing to building in the representations and churches of Nicholas Hawksmoor (1661-1736) and examines how the “art of shadow” lies at the heart of his Baroque architectural conceptions. It locates a tension between shadows and enlightenment in contrasting Hawksmoor’s moody architecture of “effect” with Sir Christopher Wren’s transparent “auditories”. Within the broader cultural background of the nocturnalization of the Early Modern period—especially within Baroque culture—shadow becomes a manageable instrument for shaping spaces of devotion, drama, and display. As mediated through his drawings Hawksmoor’s architecture is important to this creative discovery of an active darkness. Accordingly the paper interprets certain of Hawksmoor’s “Fifty New Churches” projects—in conception (as revealed in the design drawings) and built form—within the context of the ideas that informed them, such as those relating to the shadowy catacomb origins of the “primitive” Church. The arguments are developed through a rich variety of material: early topographical sketches by Hawksmoor (RIBA Drawings Collection) that show an incipient feeling for shadow; images from art history to establish the cultural contexts of shadow-making; historic photographs of Hawksmoor’s buildings (National Monuments Record) to show the chiaroscuro of soot-staining prior to their cleaning in recent times; and, centrally, Hawksmoor’s drawings of his church designs, especially those which best evidence his shadow-making (British Library, V & A Drawings Collection). In such images it is possible to see how he both works within conventions of representation, and extends them. Finding form through wash in the context of line drawings for example; admixing perspectival and orthogonal codes in his search for plasticity of form; or bringing the drama of aerial perspective to the “grey wash style” convention of denoting recessed planes.

PS17 From Drawing to Building – Reworking Architectural Drawing
Desley Luscombe, Univesity of Technology Sydney, Australia and Andrew Benjamin, Monash University Melbourne, Australia, *Session Co-Chairs*

The Art of Siting in the Drawings of Karl Friedrich Schinkel

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In the early nineteenth century the Prussian architect Karl Friedrich Schinkel used the conventions of perspective drawing not only to present to audiences the buildings he designed, but more importantly to describe the sites in which they were placed. By harnessing visual effects honed in his years designing for the theatre and for commercial panorama and diorama shows, Schinkel used the architectural project as a medium for displaying a site as a picture. In turn, the many pictures he made to illustrate these projects furnished him with a scopic methodology that allowed him to explore such concerns at both the smallest and largest of scales. The paper will therefore examine the ways in which Schinkel used the architectural drawing to construct landscapes presumed to be 'beyond' architecture as projected ideals from within the formation of the architectural artefact itself.

Furthermore, while seeking to address Robin Evans' identification of the 'gap' between drawing and building, it can be demonstrated that Schinkel's use of perspective and wall elevation drawing to present architecture as a framing device in fact facilitated a design approach that privileged the conceptual development of the architectural interior over the sculpting of the external 'object'. This reformulation of architecture as primarily a condition of interiority had a number of consequences for his built works, particularly concerning the unusual relationship Schinkel began to develop between the autonomous architectural project and the city.

Schinkel's practice of perspective drawing as a technique for conveying strategies of the presentation of site by architecture will be examined through particular images drawn from the Schinkel archive at the *Kupferstichkabinett*, *Staatliche Museen zu Berlin*. These drawings will be given historical context by some related examples from concurrent Biedermeier experiments in optics and perspective as conducted in Berlin by Erdmann Hummel, Daniel Chodowiecki and Friedrich Gilly.

PS17 From Drawing to Building – Reworking Architectural Drawing
Desley Luscombe, Univesity of Technology Sydney, Australia and Andrew Benjamin, Monash University Melbourne, Australia, *Session Co-Chairs*

Erasure: The Critical Time of the Drawing

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Drawing produces difference through iterations, constructing a world of approximations around and towards the object or space it re-presents. The architectural drawing contains elements of decision that inform the building and take place in time. Drawing as a process is never finished, not only because it is instrumental and referent to something else, but because of the plurality and the temporality that are embedded in it.

This paper argues that the re-workings that occur in the architectural drawing are already a project, and that erasure plays an important role in it, its power of trans-formation as strong as that of lines. While the space between drawing and building is the site of a translation that moves ideas across media and materials, the recursivity of the drawing occupies the time of a return to and revision of the idea. It is in this time that the drawing changes (or is changeable) with or against or before the building and performs a critique. Erasure is always incomplete and imperfect; whether it removes or adds on, it retraces and revisits that which it removes, preserving a memory of the possibility of that which it excludes.

The paper explores the critical time produced by erasure in the architectural drawing, considering it as both removal-destruction and concealing-covering. Suspending these opposites and employing both, erasure further problematizes the relation between drawing and building. The paper looks at the practice of polemical erasure in the work of G.B. Piranesi, which redefines the project as a process of both making and undoing; then moves to contemporary examples, from the smudges and ripensamenti of Carlo Scarpa, to Bernard Tschumi's explosions of architectural representation, to Lieven de Boeck's critique of functionalism through obliteration, ultimately questionin the of role erasure in digital drawings.

PS17 From Drawing to Building – Reworking Architectural Drawing
Desley Luscombe, Univesity of Technology Sydney, Australia and Andrew Benjamin, Monash University Melbourne, Australia, *Session Co-Chairs*

Drawing without Building: Projecting San Petronio, Bologna

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Drawing can indeed lead to building – sometimes. In the case of the prolific and skilled sixteenth century designer, Baldassarre Peruzzi, such a sequence proved the exception. Peruzzi's renown and influence stemmed not from his realized built works alone, but equally from his representational investigations, which document a profound exploration of architectural possibilities. Long relegated to the margins of architectural history, Peruzzi's graphic studies in fact offer rich territory for exploring the creation of architectural knowledge precisely because they need not be assessed solely in terms of completed buildings. Moreover, they document a key role that drawing assumed at the very moment when architecture was gaining standing as a distinct profession.

In type Peruzzi's drawings range from documentation to conceptualization. He translated his intense study of ancient Roman architectural remains into quickly yet carefully rendered imagery that in its tectonic focus reveals a quest for specifically architectural information. At the same time, he wielded his figural training architectonically: Peruzzi consciously manipulated perspective to conceive and depict architectural space and consistently employed perspectival studies amid both new designs and studies of extant buildings.

Extending two meters in width and nearly the same in height, Peruzzi's monumental study for redesigning the crossing of San Petronio in Bologna is a masterwork among his surviving drawings. While it rivals his famous study for the new Saint Peter's basilica, its scale and damaged state have rendered this drawing far less well known. A new graphic reconstruction allows for close analysis of the representational techniques and spatial intentions that Peruzzi inscribed in this image. Where in his proto-axonometric depiction of the Vatican basilica he adopted forms from Rome's ancient remains for a building in formation rather than falling to ruin, here his distinctive representational techniques reveal tectonic structure, a fundamental and distinctive interest for its designer.

PS17 From Drawing to Building – Reworking Architectural Drawing
Desley Luscombe, Univesity of Technology Sydney, Australia and Andrew Benjamin, Monash University Melbourne, Australia, *Session Co-Chairs*

From Matter to Force: The Diagrams of Auguste Choisy

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This paper presents research on Auguste Choisy and explores the difference between his axonometric drawings in *L' art de bâtir chez les Romains* (1873) and his studies of the Acropolis in *l'Histoire de l'architecture* (1899). First, the paper demonstrates how the drawings provide insights regarding notation specific to 19th century forms of analysis and how in advanced cases drawing does not lead to the ‘representation' of buildings but rather towards that which contributes to their organic unity: to analyze architecture in its (newly discovered) tectonic, material, social, economic and even anthropological complexity required an analysis of forces, functions, and factors. Choisy's drawings exemplify the emergence of the *diagram* as a new category of architectural drawing. Secondly, the paper focuses on the difference between Choisy's axonometric and planimetric drawings. The axonometric drawings compressed the sum total of aggregate matter, structure, space, and program into section, elevation, and plan -- a building from the point of view of material, tectonic, and economic organization and thus *generating* space. The planimetric drawings introduce a different spatial logic. The asymmetry of the Acropolis according to Choisy was planned; the distribution and massing of buildings reflect a balanced but dynamic experience. But this analysis required a notation heterogeneous with conventional topographical drawings, a vector with a dotted line and arrow that compressed movement through space over time as an effect of the "ponderation des masses." This abstraction of *force* is entirely new in architectural history. Choisy's vector represents the moment when the problem of representation weighs on the problem of technique and crosses a threshold into a new ontological framework, that of architecture as event. Although there are precedents for his axonometric drawings, there are none for his use of the vector. This paper aims to resolve the origin of this new notation.

PS18 Open Session Three
David T. Van Zanten, Northwestern University, *Chair*

Rearing Royals: A Study of Spaces for Royal Children in 16th-Century France

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Since the 1980's, architectural historians of Early Modern France have emphasized the need to study not only buildings' exteriors and decorative elements, but also interior spaces, their distribution, and the manner in which buildings both influenced and were shaped by the lives of their inhabitants. Scholars have used the archival record to re-animate royal châteaux, such as Fontainebleau, with the activities of the court, providing new insights into architecture's prominent role in the function of the monarchy. This paper will highlight this critical link between architectural form and function by investigating the spaces that the children of Henri II and Catherine de Médicis inhabited at the residences of Blois, Madon, and Saint-Germain-en-Laye, as well as the children's frequent movement between these locations. Embodying the future of the monarchy, royal children elicited a great deal of interest and concern and constituted a central node in the court's network. Their situation within architectural space thus reveals much about royal child-rearing, dynastic strategies, and the monarchy's self-conception.

An account book from 1551, one of only two such documents known, preserved at the France's Bibliothèque Nationale provides details about the apartments of the dauphin, his siblings, and the young Mary Stuart, who was raised at the French court. I will examine this account alongside other records, including correspondence, as a case study through which we can understand the children's occupation of space as well as the quotidian movements and routines of the maison des enfants; their entourage of courtiers, staff, and playmates. The spatialization of the children based on sex and rank and their access to various rooms for the purposes of education and play demonstrates the extent to which the built environment impacted court and familial relationships and, through these, the socio-political operation of the kingdom.

PS18 Open Session Three
David T. Van Zanten, Northwestern University, *Chair*

The Josephinum - Construction of a Healthy Society

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During the period of the (so called) enlightenment, risk management and health improvement was a core focus. Architecture and urban design maneuver within a framework that is defined by politics, cultural, economical and social conditions and should have a major impact on people's lives, risks and health.

From 1765 onwards a massive process of change began in Vienna's building stock and appearance. The suburbs urbanized; public facilities, hospitals and barracks were built next to newly developed residential areas. Urban design followed the principles for a healthy, green and livable city. Infrastructural facilities were created to improve health, fight all sorts of diseases and child mortality. Architecture turned to straight Classicism.

In order to understand the background of the changes in the city of Vienna during the so called "Josephinismus", the concepts and motivations of Emperor Joseph II and his circle of experts, who were strongly affected by enlightenment ideas, has to be considered.

In the center of his measures was the construction of a medical district in Vienna– ranging from the medical-surgical academy Josephinum as an educational institution to various hospitals. This medical district became the largest in Europe at that time.

The Josephinum is a masterpiece and a very special monument of this period of time. It is not only an architectural manifestation of Neoclassicism in Austria; it is also a declaration of the Enlightenment policies of Joseph II. and for the medical sciences on behalf of risk and health management.

PS18 Open Session Three
David T. Van Zanten, Northwestern University, *Chair*

Le Corbusier, la Belle Epoque, and the Quirks of Historiography

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Despite voluminous scholarship devoted to Le Corbusier, including MoMA retrospective LeCorbusier, An Atlas of Modern Landscape," where scholars worldwide tracked his every move, there is silence about his first month in Paris. The year 1908 was pivotal for Corbu, then Jeanneret; it is believed that after a few weeks of playing tourist, Jeanneret joined the firm of Auguste Perret. But the more learned about Le Corbusier's mythologizing, and the contradictions between the image he publicly projected in his determination to become a cutting-edge architect and what actually happened, the more questions are raised about what he omitted from his youthful accounts, fearing it might sully his past.

Arriving in Paris April 1908, Jeanneret initially sought work not with Perret, but with Frantz Jourdain, architect of the Samaritaine and leading figure in the Parisian Art Nouveau. Jourdain was well-known, especially among younger, progressive architects affiliated with the decorative arts movement, not just for his exposed steel framed department store, but for his theories as a leading Art Nouveau theorist in Paris. He celebrated the engineer's aesthetic in his reviews of the 1889 Exposition, denouced the anachronistic Ecole des Beaux-Arts and its outdated curriculum in his L'Atelier Chantorel (1893), advocated democratic ideals in art and the use of frankly exposed industrial mateirals and processes, well before Corbu used similar rhetoric in the 1920s.

Well too before Otto Wagner wrote Modern Architecture in 1896, considered a point of departure for modernist thinking. Relying on Corbu's writings of the 1920s and misled by accounts of modernism in the 1950s and '60s equally dismissive of anything Art Nouveau, historians have overlooked important material, sweeping the theory out with the often excessive decoration of the Parisian Belle Epoque. It was here that much of the formative thinking of modernism in the 1920s is to be found.

PS18 Open Session Three
David T. Van Zanten, Northwestern University, *Chair*

Voyage aux Etats Unis – Jean Prouvé in America

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In 1963 an inquisitive visitor arrived in Chicago. Jean Prouvé, pioneer of industrialised architecture in France, undertook a journey through the US to see its contemporary architecture.

From the late 1920s onwards Prouvé introduced modern techniques of engineering to the field of building. The curtain wall in sheet metal and glass, which he was the first to use in France in his Maison du Peuple in Clichy, was just one aspect of his work, as he always focused on the entire building as a coherent entity. At the beginning of the 1960s he developed and designed wall and ceiling systems for a huge manufacturing plant. After the completion of this major commission, the participating corporations began to investigate new fields of activity, particularly in the area of architecture. Together with Jean Swetchine, the civil engineer responsible, Prouvé was sent to the US to make studies.

The notes and photographs made by these two travelers precisely documented the different stops on their trip, the construction sites and buildings visited – which at the time were new and today are generally regarded as outstanding examples of post-war modernism. Jean Prouvé was not an unknown figure in the US and lectures and meetings with other architects formed a part of his schedule. What interested Prouvé about the US? Apart from the places visited, Prouvé's reflections on what he saw have also been examined. They have influenced his ideas and work. After all Prouvé got involved in the building of the first skyscraper in France. The "Tour Nobel" (1964-66) was an independent and unusual solution. His high-rise projects for the Education Ministry in Paris and a project for New York, which were never built, were no less remarkable.

PS18 Open Session Three
David T. Van Zanten, Northwestern University, *Chair*

Just What Made Yesteryear's Homes So Different, So Appealing?

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Asked about the most expedient way to dispose of a London house in 1770, the British architect Sir William Chambers counselled, 'the Surest way is to advertise.' Nonetheless, despite decades of scholarship devoted to the production and consumption of the early modern urban house across the British Atlantic world, the marketing and advertising of houses has received little critical attention. Focusing on real estate advertisements published in London, Dublin and Philadelphia during the late Georgian/Federal era, this paper will explore the dynamic exchange between house selling and home buying.

By the mid-eighteenth century, newspaper advertising was both a ubiquitous and highly specialized literary sub-genre. Recent scholarship by Claire Walsh, John Strachan and others has highlighted the sophisticated marketing strategies utilized by retailers and manufacturers, arguing that the language of advertising, particularly that aimed at the upper and middle classes, deliberately responded to distinctions in politeness and to signifiers of gentility. In a period when the urban house was increasingly subject to architectural theorizing – being a private concern with a public obligation to the civic milieu – how did builders and auctioneers negotiate the rhetoric of consumer retailing yet satisfy the sensibilities and demands of a genteel audience? How did builders distinguish their properties within a proliferous marketplace of 'elegantly finished' and 'modern style' houses? What visual and textual techniques were pressed into service?

Focusing on three cities of the eighteenth-century Atlantic world – London as its economic and cultural hub, Dublin as second city of the British empire, and Philadelphia as the capital of a new nation – this paper will also consider how issues such as house location, quality of structural and decorative finish, domestic convenience, and suitability were reflected in, and dependent on, each city's particular socio-economic order.

PS19 Materiality and Modernism
Alina Payne, Harvard University and Robin Schuldenfrei, The Courtauld Institute of Art, University of London, UK, *Co-Chairs*

A Question of Digital Materiality: Media Facades in Architecture

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The development of media facades in architecture during the last 30 years represents a new chapter in the modernist discourse on materiality. The media facade, in which content is dynamically displayed using graphics and/or text embedded into or projected onto a building's exterior surface, comprises the most intensive embodiment to date of *the digital* in architecture. This merging of architecture and digital media, with its inherent ephemerality, appears to call into doubt traditional notions of materiality, raising the question: is "digital materiality" a contradiction in terms? Citing the case of recent innovations in media-façade design and construction, this paper will argue "no." Rather, media facades represent a new kind of materiality, in which materials are deployed not to express their own inherent qualities (the heaviness of concrete, the delicacy of glass, etc.) but instead to convey information, essentially becoming invisible in service to that goal. Although digital media facades are sometimes characterized as the "de-materialization" of architecture, a closer look reveals a reliance on complex assemblages of new material technologies--LEDs, Photovoltaics, new types of glass--whose collective performance is actively put on display. Following a brief overview of the historical development and categorization of media facades, this paper will quickly move beyond the "digital billboard" advertising typology of Times Square to focus on three case studies (one each from the 1980s, 1990s, and 2000s) which offer more nuanced and complex readings of digital materiality: the Tower of Winds in Yokohama, Japan (Toyo Ito, 1986), the Kunsthaus in Bregenz, Austria (Peter Zumthor, 1997), and the Green Pix façade in Beijing (SGPA/Arup, 2008). This discussion will focus on the actual materials used to achieve the unique performance of each building's media façade, analyzing their mechanisms and effects, and establishing a vocabulary for examining the materiality of digital media in architecture.

PS19 Materiality and Modernism
Alina Payne, Harvard University and Robin Schuldenfrei, The Courtauld Institute of Art, University of London, UK, *Co-Chairs*

Material/Anti-material: Glass, Dust and Air in the Maison de Verre

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The Maison de Verre (Pierre Chareau, Paris, 1928–1932) is notable for its extensive use of glass as a building material. An 'icon' of the twentieth century, it is usually analysed as a functional, mechanical object rather than for its historical, material and spatial meaning. The clients' (gynaecologist Dr Dalsace and his wife Annie) incorporation of a progressive gynaecology clinic into the domestic 'free-plan' layout is understated in modernist histories. The clinic, in the 1930s context of pronatalism and prohibition of contraception and abortion, is especially striking given the thin glass that veil it. Its spatial and material relations to the domestic interior overlooking it, imply a built sexuality.

Following my doctoral thesis ('Part-architecture: the Maison de Verre through the Large Glass', 2013), this paper argues that the building's glassiness initiates new conversations on the meaning of modernist materialities. The subject and material of the Maison de Verre recall the radical artwork the Large Glass (Marcel Duchamp, 1915–23), an experimental glass construction likewise motivated by sexuality. Duchamp's glass was a medium for collecting other materials – lead, dust, paint, air – to depict the unconsummated relations between Bride and Bachelors, in a commentary on 1920s Parisian socio-sexual mores.

Here I utilise Duchamp's glass, dust and air to trace the social significance of the same in the Maison de Verre. Glass shapes the interior, constructing dialogues of visuality and sexuality through transparency and translucency. Dust – for Duchamp depicting skin and breeding – is a continuous byproduct, an anti-material made more visible by the glass and hygienic modern spaces. Of skin and hair it suggests time and past bodies. Finally, air – the generative mechanism for potential relations in the Large Glass – becomes an invisible communicative medium for the registers of heat, light and sound in the Maison de Verre.

PS19 Materiality and Modernism
Alina Payne, Harvard University and Robin Schuldenfrei, The Courtauld Institute of Art, University of London, UK, *Co-Chairs*

Béton Brut and the Vitality of Materials

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For most historians of modernism, Le Corbusier's invention of *béton brut* at Marseille revolutionized the materiality of postwar architecture. The originality of *béton brut* lay not only in its appearance, with its marks recording the production process, but also in the architect's celebration of the beauty resulting from "flawed workmanship" (*malfaçon*). In a recent study, Roberto Gargiani and Anna Rosellini convincingly show that the idea of *béton brut* was an afterthought (2011). They recall that Le Corbusier, appalled by a constellation of "atrocious" defects, ceaselessly tried to repair the concrete. It was only after the Unité's inauguration that he talked about the "splendeur" of *béton brut*, presenting the imperfections as a new form of artistic expression. Afterthought or not, this new narrative begs the question of the rapport between Le Corbusier and his elected material.

To talk of rapport is to raise the question of material agency, a topic vigorously debated in the social sciences. Political philosopher Jane Bennett argues that matter possesses "vitality," that is, the capacity of things "not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities, or tendencies of their own" (2010). In his study on "making," anthropologist Tim Ingold postulates that practitioners and materials actively interact with one another in the generation of form (2013). These premises imply that in architecture, materials are endowed with a capacity to react to—or resist—the demands of the designer.

Informed by these theoretical positions, I propose to re-read the making of *béton brut* through the interaction between architect and material. Extending this model to examine works by Paul Rudolph and Louis Kahn, both inspired by Le Corbusier's *béton brut*, I will seek to uncover the effect of the vitality of materials in postwar architecture.

PS19 Materiality and Modernism
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Modernism's Tranquilizer: Mendelsohn's Concept of Ferro-Concrete

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Reinforced concrete was many a modernist's favourite material. Its load bearing capacities (in)formed an architecture of wide spans, cantilevers and slender structure, perfectly summed up in Le Corbusier's Five points (1927). However, as much as its qualities were appreciated, the composite nature of ferro-concrete caused mixed feelings. As Adrian Forty has pointed out, even Frank Lloyd Wright regarded the conglomerate as a "mongrel" material.

For Erich Mendelsohn, however, the composite character of ferro-concrete was constitutive of modern architecture. As he explained in his 1919 lecture, "Das Problem einer neuen Baukunst", it was precisely the "dynamic tension" between the two materials iron and concrete that allowed architecture to enter a new era, not least in a structural sense.

Mendelsohn saw the purest expression of "condensed iron energy" (gedrängte Eisenenergie) in things that could move: Machines and, above all, airplanes, steamers, and cars. In architecture, concrete served to tame this inherent energy of iron. But not only that: Mendelsohn believed that the complex "interplay of forces neutralizing one another" also affected a building's urban surroundings. Its well-balanced forces, stated Mendelsohn in 1923, possessed the capacity to tame the nervousness of the street, cars, and passers-by. Thus, reinforced concrete became not only the perfect expression of, but also a tranquilizer for, modern metropolitan life.

Basing my argument primarily on Mendelsohn's lectures "Das Problem einer neuen Baukunst" (1919) and "Dynamik und Funktion" (1923), I will discuss Mendelsohn's idea of the correlation and competition between iron energy in moving machines as opposed to iron energy in static architecture, manifest in the forces active in ferro-concrete.

PS19 Materiality and Modernism
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Pneumatic Decoys: Blowing Up Architectural Modernism

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Rather than aiming for permanence through construction, inflatables allow for performative spontaneity by blowing up. The instantaneity and ephemerality of these air-filled membranes subverts the careful planning and durable detailing affiliated with architectural modernism. Throughout the 1960s and early 1970s, pneumatics inspired an escapist and anti-monumental approach to design. For example, Banham and Francis Dallegret's *Environmental Bubble* (1965) proposed a domesticated utopia equipped with modern amenities, freed from the fixity and permanence of the traditional home, echoing the emergence of durable (ironic) goods and appliances with a built-in expiration date and planned obsolescence. The portability of Michael Webb's *Suitaloon* (1967), a garment that inflated into a nomadic living envelope, suggested that architecture operated optimally as a spatial and social prosthesis. Building upon these notions of transience and adaptability, Hans Hollein's *Mobile Office* (1969) suggested that one could not only lounge or play in a bubble, but that work could happen anywhere, anytime. In their performance *Basel Event: The Restless Sphere* (1971), Coop Himmelb(l)au used human bodies to propel an inflatable bubble down the street, rendering the pneumatic membrane as a "barely-there" form of architectural enclosure, perpetually set into motion. According to Ant Farm's *Inflatocookbook* (1971), a do-it-yourself manual for pneumatic construction, the reason to build inflatables becomes obvious "as soon as you get people inside" and they experience "the freedom and instability of an environment." Through their anti-monumentality, architectural inflatables avoided the aestheticized iconography of a modernism tarnished by "failed" utopias. By repurposing petroleum products, plastics, and military/industrial technology, pneumatics allowed the architectural counterculture to embrace the ideologically repellent nature of consumer capitalism. Here, the packaged lifestyle of vinyl siding and Levittown were coopted to generate public and tectonic performances. This paper examines how pneumatics served as performative material decoys to lure social, economic, and political critique into architectural modernism.

PS20 Reassessing the Cold War in Architecture and Planning
Paolo Scrivano, Boston University, *Chair*

The Specter of Cheerfulness in Cold War Architecture

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A specter haunted West German architecture in the ‘Fifties - the specter of Heiterkeit, or “cheerfulness.” Egon Eiermann and Hans Scharoun, two of the nation’s leading design talents, became adversaries in this dispute about the postwar Zeitgeist. Their disagreement, conventionally framed in terms of building style, also negotiated the architectural profession’s “valuation of emotions and how they should be expressed,” as historian Barbara Rosenwein describes the organizing principle of what she terms “emotive communities.” Although recent design histories tend to depict anxiety as the lingua franca of cold war affect, this presentation argues for a locally contingent approach to the emotive discourses that expressed varying subject positions within an unfolding postwar order.

Hans Scharoun’s unbuilt 1951 entry to West Berlin’s Amerika-Gedenkbibliothek (American Memorial Library) competition provides an architectural case study in cheerfulness as a postwar emotive and its ideological utility in cold war propaganda. As bluntly stated by a U.S. competition advisor, the Gedenkbibliothek program “called for a high building in order that it act as an effective cold war weapon as seen from the Soviet sector.” Scharoun proposed a seven-story tall billboard of abstract neon circles mounted on steel trusses suspended in front of his library design’s glazed slab. The luminous sculpture was to extend well above the building’s cornice, ensuring clear sight lines along a view corridor extending directly into East Berlin and its dim nocturnal landscape. Scharoun’s design conveyed the message that life in the West was qualitatively different. It was “heiter” – meaning both “bright,” as in sunny, but also “cheerful” – a revolutionary emotion for a European pariah feeling the exuberance of an unfolding "economic miracle" while still bearing the scars of total war and it its deadweight of guilt and shame.

PS20 Reassessing the Cold War in Architecture and Planning
Paolo Scrivano, Boston University, *Chair*

Vienna: A Special Case in the Cold War

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From 1945 to 1955, Vienna, like the rest of Austria, was occupied and divided by the four Allies. Each of the four occupying countries established its own cultural program. This paper will address how each of the occupying country's impacted the city's architecture. This is new ground for hardly any comparison research exists on the Allied Forces' cultural programs. What becomes apparent is the differing slant of the criticism by groups with vested interests. From 1947 to 1958, for example, the city authorities erected 62,000 apartments. Architecturally Vienna could not go back to its Austro-Marxist codified Superblocks implemented in the existing urban fabric. For Vienna's Social Democracy, the British Way – as an alternative to totalitarian communism and laissez-faire capitalism – pointed the way ahead. The first French architecture and urban planning exhibition took place in May 1948. Le Corbusier, Marcel Lods, and André Lurçat traveled to Vienna to hold lectures. In the exhibition, projects for the reconstruction of French cities were shown. CIAM 9 was already attended by sixteen participants from Austria. In Austria, American tutelage was referred to as "re-orientation," as opposed to Germany, where it was named "re-education." The 1950 exhibition "Die Frau und ihre Wohnung," organized by the Social Democratic Women's Union and the Federation of Trade Unions, incorporated the exhibition "Die Frau und der Marshallplan." The driving force behind many of these initiatives was to open the market for American products and to encourage private-public partnerships, as well as to support Austrian productivity. My interest lie in the asymmetries of the culture transfer, which is always a dynamic und multifaceted process. It is not simply a matter of "adoption," but equally of rejecting concepts, and reinterpreting and adapting them to local traditions, or as the case may be, determining which cultural patterns they follow.

PS20 Reassessing the Cold War in Architecture and Planning
Paolo Scrivano, Boston University, *Chair*

Cold War in the Tropics: The Politics of Design in Fria, Guinea

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Two forces helped catapult the West African territory of Guinea to the forefront of Cold War tensions during the 1950s. One was the rising demand for aluminum, which prompted France to cordon off the territory's vast bauxite reserves as the exclusive source for its nascent aviation industry after the Second World War. The other was colonial reform, which ushered in partially autonomous governments throughout France's African territories in 1956 and culminated in Guinea's exit from the French community in 1958. Both forces coincided on the development of a massive new industrial scheme by the French aluminum conglomerate Pechiney in Fria: the most ambitious scheme attempted in Guinea at the time. By 1960, Pechiney hoped to be refining enough alumina from the bauxite of nearby mines at Fria to start producing aluminum at their facility in Edéa, Cameroon, at significantly lower costs than in mainland France. To meet this goal, they needed to assemble a sizable workforce on location in the Guinean highlands. So in 1956, Pechiney commissioned the architect Michel Ecochard to design a new town of 20,000 with housing and amenities tailored to the lifestyles of the company's European technical staff, indigenous workers, and their respective families. This paper examines the intersecting corporate interests and Cold War politics that factored into Ecochard's design. Where France had otherwise withdrawn financial and technical aid from Guinea after 1958, it was under pressure from the United States to continue supporting the Fria scheme lest Guinea find an alternative source of assistance in the Soviet Bloc. The paper argues that, by pushing ahead with the scheme under these unique circumstances, Pechiney was not only safeguarding its own financial interests, or even those of the French State, but acting as an important proxy for capitalism in the ideological battle then playing out in Guinea.

PS20 Reassessing the Cold War in Architecture and Planning
Paolo Scrivano, Boston University, *Chair*

Modernism, French Reconstruction and Cold War Diplomacy, ca. 1950

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Following World War II, the French government began concerted efforts to modernize the country's infrastructure and economy. Despite what the prevalent narratives proclaiming the dawn of a "French Renaissance" (Roger Garaudy) or of the "Thirty Glorious" (Jean Fourastié) suggest, the Reconstruction unfolded amidst great political and social unrest. This paper uses as its case study the 1951 master plan for the Régie Nationale Renault in Flins by Bernard Zehrfuss, which was launched by Eugène Claudius-Petit of the Ministry of Reconstruction and Urbanism in collaboration with members of Groupe Espace. Built as part of the Marshall Plan, in the aftermath of the punitive nationalization of Renault in 1945 and of the general strikes of 1947, the Régie Nationale's "green factories" and social housing complexes became a key part of the French State's attempt to curb working-class activism and to promote an image of domestic prosperity and efficiency, as it became the theater for numerous visits from international state officials from both sides of the Iron Curtain, including Soviet Premier Nikita Khrushchev. This paper argues that the MRU's and Renault's contracting of Groupe Espace members—who determined the De Stijl-inspired polychrome scheme of the project—stemmed from increasing confidence in modern art's meta-political role in the Reconstruction context. Adherents of the "synthesis of the arts", following up on some of the themes defined in the context of interwar avant-garde groups as well as within the CIAM, claimed that modernist abstraction had the potential to not only increase the quality of life and the productivity of workers, but also to redeem the company's image and therefore serve to mitigate the confrontational politics that emerged in the wake of the Vichy regime.

PS20 Reassessing the Cold War in Architecture and Planning
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New Belgrade : Anti-Berlin

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I propose to discuss New Belgrade, the new capital of socialist Yugoslavia, as an antipode to the divided Berlin and to the concomitant narratives of Cold War's urban manifestations. New Belgrade challenges most stereotypes about Cold War architecture: from its aesthetic associations, which identified socialism with monumental classicism and capitalist liberal democracies with the International Style, to the materialization of the ideological rivalry in the shape of the Berlin Wall. The "war of styles," which famously unfolded on the streets of Berlin in the 1950s, played out very differently in New Belgrade, where the Yugoslav socialist state appropriated high modernism as its official architectural language. In the following decade, New Belgrade emerged as one of the key nodes in the networks of Non-Alignment, a political movement that defied both the dying colonialism and the Cold War divisions, and then in the 1970s as a neutral ground for the forging of the détente, as it hosted the Conference for Security and Cooperation in Europe. The key symbolic site for the city's new role as a place of encounter was the so-called Friendship Park: initiated on the occasion of the fist summit of Non-Alignment in September 1961-just three weeks after the construction of the Berlin Wall began-the park was planted by the highest statespersons who visited Yugoslavia, including three US presidents, two Soviet party leaders, a dozen crowned heads, and numerous Third World officials. At the same time, New Belgrade became a hub for the global dissemination of architecture, as it hosted the headquarters of the large Yugoslav construction companies active across the developing world. This paper aims at recovering the neglected significance of New Belgrade as one of the key sites of Cold War history and the urban materialization of an alternative vision of global order.

PS21 Bigger Than Big: American Matter Out Of Scale
Justin Fowler, Princeton University and Dan Handel, Technion Israel Institute of Technology, *Co-Chairs*

The Naturalist in the Age of Ecology

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Sand County Almanac, written by the American naturalist and conservationist Aldo Leopold, contains a short essay titled “Thinking Like a Mountain.” The essay chronicles Leopold’s excitement in seeing a wolf and her cubs during a hunting trip. But too young, too impatient, and too restless, he and his companion raise their guns and let off a volley of shots that kills the mother wolf. Leopold’s empathy with the creature as he watched “the fierce green fire dying in her eyes” is not just spiritually moving and visceral. The awe and compassion captured in this singular moment of realization paved the way for a deeper interrogation of the natural world, and an ecological land ethic that paid heed to the call of the wolf.

“Thinking Like a Mountain” clearly illustrates themes entrenched in America’s understanding and vision of itself. After all it was more than a century earlier that Emerson sought to merge religion and science through the figure of the naturalist, and Thoreau who argued that the civilized and wild must live together or perish. Leopold, however, couched his remarks within a ecological dynamic that is as much about resource management and the recovery of what has been lost, as it is with the wisdom gained from the observation of nature.

This presentation explores the idea of naturalist in the mid-twentieth century American environmental imaginary. Using Leopold’s essay as a starting point, it discusses similar moments of visceral self-discovery in the work of the anthropologist Loren Eiseley and the landscape architect Ian McHarg. This essay, therefore, is not about big in the sense of scale, though that enters the picture. Rather, it is about big in the sense of age-old processes operating at scales immeasurably larger than human comprehension, and how personal confrontation with these processes impacted behavior and belief.

PS21 Bigger Than Big: American Matter Out Of Scale
Justin Fowler, Princeton University and Dan Handel, Technion Israel Institute of Technology, *Session Co-Chairs*

Land Art as Land Management

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A buzzword in the history of Land art is immense. Historians trumpet the work as so out-of-scale that even “scale” becomes meaningless, resorting to equally intangible discussions of entropy and experience. Pastoral rhetoric abounds, consigning Land art to the dialectical tension between the urban and the so-called wild. This history is reinforced by dependence on the artists’ own modes of practice and representation, whether film, photographs, or storytelling. Portrayals of the artists themselves as cowboys and visitors as pilgrims are no less nostalgic than Vasari’s account of Giotto found shepherding by Cimabue.

This paper challenges Land art’s prevailing mythologies by focusing on the material conditions of its development. Land art prospered in the American Southwest—the site of agricultural production, energy and mineral extraction—and not simply in dead seas or dead volcanoes as history describes. It also emerged during the environmental movement, from which Land art is frequently distinguished, despite the increasing privatization of these lands in the service of preservation. By considering how land use laws in rural areas shaped both the artists who encountered them and the artworks they created, the tangibility of a middle scale emerges. Neither Land art nor the places it occupies are lacunae for our reluctance to grapple with vast landscapes, physical or theoretical. Rather, Land art is a system of land management.

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Topographic Monumentality: Myron Howard West's Schemes for America

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Since the early-twentieth-century recreation has served as a device to mitigate the scalar expansiveness of the Americas. Often studied as networks and trails, never has recreation been studied in its topographic monumentality. In his essay, “Derivative Sport in Tornado Alley” David Foster Wallace recounts traveling “to events like the Central Illinois Open in Decatur, a town built and owned by the A.E. Staley processing concern and so awash in the stink of roasting corn…” While Staley’s did not actually own Decatur (one-time “Soybean Capital of the World”), in 1919 they did hire Chicago-based landscape architect Myron Howard West to produce a “new plan.” In dire need of more water to process soy, Staley’s and the Chamber of Commerce hired West to not only build an instrument to harvest water—the largest-man-made-lake Illinois at the time—but to redesign Decatur as a model town of recreation. As president of American Park Builders (APB), West had extensive experience integrating industrial infrastructure and recreation into hundreds of existing towns across North America. An early advocate of zoning and recreation from his time as a member of Daniel Burnham’s team for the Plan of Chicago (1909), West used recreation to merge what historian Françoise Choay has identified as a longstanding tension in city design since the nineteenth century: is the city an instrument or an organism? West not only used recreation to elide such tensions, but also designed new forms of civic space in low-density communities—a kind of topographic monumentality.

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Collecting the Nation: The Museum of La Plata, Argentina 1888

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In 19th century Argentina, both history and capital were extracted from the same site: the pampas, the seemingly infinite plains that extend across the Southern Cone. Intrepid explorers like Richard Owen and Charles Darwin excavated skeletons of Glyptodons, Megatheriums, Mylodons, and other creatures of the Pleistocene. These ancient bones provided the recently constituted nation with the sense of a remote, sublime past. Some of them were shipped across the Atlantic, following a similar route as other, more conspicuous products of the pampas: grain and cattle. The plains were a source of both past history and present wealth. The trade of these products required a vast infrastructure of railroads, storage sites, and ports, built and managed by the head of this economic empire, England. In turn, iron building parts were shipped to Argentina to assist in this task. Eventually, iron and bones crossed paths in the construction of a building in the pampas: the Museum of La Plata. This natural history museum was populated with giant skeletons, taxidermied sloths, and reconstructed scenarios of Argentina's native population, the Tehuelche—one of the first people to populate the Americas, extinguished just as the museum was rising. Iron and bones combined in the museum's circular path, a promenade through the country's remote past where the primitive was transubstantiated into the sublime. I argue the building, as a container of objects and narratives, can be used to untangle these vast networks and their role in Argentina's conflicted relationship with its own bigness.

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"A New Hemisphere in the Geography of the Mind"

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In 1947, American poet Charles Olson published an unorthodox study of Herman Melville's *Moby-Dick*, in which he declared space to be "the central fact to man born in America." The book, *Call Me Ishmael*, received a scathing review from Lewis Mumford, renowned American intellectual, architectural historian, and Melville scholar. His private correspondence suggests, however, that Olson's reading struck a deep chord. I would argue, Mumford found in *Call Me Ishmael* a problematic counterpart to the geopolitical poetics that had been at the core of his own work since the 1920s. My paper examines the Mumford-Olson encounter in relation to some territorial articulations of US interwar and wartime governmentality.

Starting with his first books in the 1920s, Mumford would elaborate a system of spatial tropes—such as open and closed, centralized and dispersed, etc.—as framework for a genealogy of American development from the colonial period to the present. Influenced in part by the social geography of Patrick Geddes, this symbolic morphology allowed Mumford to *spatialize* the cultural and political history of the nation. The interwar and war decades witnessed an evolution of the US state apparatus, accompanied by unprecedented administrative re-articulations of the nation-state's territorial matrix. Arguably, Mumford's spatial poetics gave him access, in the "geography of the mind," as he put it, to the epistemological device of the border, structuring the technocratic partitioning of space. In his well-known regional planning proposals, he sought to instrumentalize this intellectual device for a counter-"patterning" of national territory.

In contrast, Olson's spatial thesis was based on a tropology of boundlessness and immeasurability. The "Bigness," in Mumford's words, of his America (or, still more precisely, its "bigger-than-bigness," to quote this panel), negated the historian's morphological device of the border, suggesting an altogether different poetic confrontation with the nation-state's territorial rationality.

PS22 Repositioning Mughal Architecture Within the Persianate World
Mehreen Chida-Razvi, SOAS, University of London, UK, *Chair*

Mughal Tilework: Persianate or Sultanate?

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Mughal architectural decoration is a topic that has been explored in some depth for inlaid stone, but tilework in India, whether of its Sultanate predecessors or of the Mughals themselves, has been strangely neglected. In many previous works tilework has been either ignored in the text or was frequently described by the archaic term “enameled tiles.” A partial exception was the term mosaic faience, or tile mosaic, a technique well known from Iran, although some of the sources describing Indian architectural examples of this use it with a different meaning than that normally found in Iran.

This leaves several questions to be answered. To what extent did Indian tilework avail itself of the range of decorative techniques known from Iran, e.g. monochrome glazing, underglaze- or overglaze-painting, tile mosaic and inset-technique? Were they in fact introduced by way of Iran, and at roughly the same times? Were they used in the same ways in India, or did they develop along different lines? Did Indian tilework evolve any new techniques of its own? Were certain techniques favoured on particular building types? Did patrons show any preference for a particular kind of tilework, and why?

These questions acquire a sharper focus with Mughal architectural decoration, as the renewed contacts with and historical consciousness of their Persianate heritage raise the question of whether Mughal tilework borrowed directly from Timurid, Uzbek or Safavid sources, or whether continuity with the development of Sultnate tilework is to be expected.

The paper will examine the evidence for this within a wide range of buildings, not only from the major Mughal cities of Agra, Delhi and Lahore, but also from the important provincial city of Thatta.

PS22 Repositioning Mughal Architecture Within the Persianate World
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Gardens in Early Mughal Age: Origins of Design and Concepts

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Mughals, the dynasty of Central Asian origin, ruled portions of the Indian subcontinent from 1526 to 1857. The founder of this dynasty, Babur (1483-1531), and his successors were well-known in history because of their great patronage for arts, architecture, and garden design. In his memoir, Babur expressed his lifelong interest in horticulture and his attraction as a young man with the gardens of the Timurid capitals in Samarqand and Herat, and even refers to his involvement in the design and construction of gardens. After Babur his successors followed this pattern. Although his son, Humayun, didn't have much time to spend for designing gardens, his tomb is the earliest example of Mughal garden mausoleums. Akbar (1556-1605), Babur's grandson, annexed Vale of Kashmir, whose mountains, rivers, and rich vegetation provided numerous settings for gardens. He also erected a series of garden palaces at Kashmir, Agra, Lahore, and Fatehpur. The dynasty's greatest patron of architecture, Shah Jahan (1628–58) reconstructed the palaces at Agra and Lahore and constructed a mausoleum at Agra, called Taj Mahal. This interest in gardens gradually disappeared with a gradual increase of Islamic orthodoxy in Mughals' court.

Studying historic documents, this paper aims to discuss the influence of earlier traditions of garden design in the genesis of early Mughal gardens in macro and micro scales. I will make paralells between Timurid/Safavid gardens in the Persianate world and the Mughal gardens in order to examine pre-Mughal Persian influence on the development of the concept of Chaharbagh (or designed garden in general) in early Mughal era. This research will clarify transregional connections and local influences in Mughal landscape design traditions within their cultural and political context.

PS22 Repositioning Mughal Architecture Within the Persianate World
Mehreen Chida-Razvi, SOAS, University of London, UK, *Chair*

The Mughals and Safavids: Shared Architectural Practices

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This paper investigates some of the uncharted commonalities between Mughal and Safavid architectural practices. While the artistic achievements of the Timurid era (1370-1507) were hailed by all the succeeding dynasties in the region, their legacy was particularly vibrant in the early modern courts of the Mughals (1526-1707) and the Safavids (1501-1722); Mughal rulers of the Indian subcontinent saw themselves as descendants of the house of Timur, while the Safavid dynasty of Iran inherited large portions of the Timurid territories, monuments, and artists. Despite this shared background, Safavid architecture has rarely been studied as part of a broader world of inherited cultural practices. When discussing the connections between Mughal and Safavid architecture, scholarship has paid more attention to patterns of diffusion, often using a center-periphery model, rather than highlighting the common roots of forms and functions.

In this paper, I explore the ways in which knowledge of Mughal architecture can shed light on original function and meaning of less-studied Safavid monuments. For instance, through formal comparison, I argue that the now-vanished Guldasteh pavilion, built in the early seventeenth century at Isfahan in the Safavid palace complex, was probably conceived as a library-cum-observatory, not unlike the Mughal structure Sher Mandal in Purna Qil'a at Delhi. Equally illuminating is a comparative study of Safavid hunting pavilions with their Mughal counterparts. Such comparisons enhance our understanding of the shared practices of both Mughal and Safavid architectural cultures.

PS22 Repositioning Mughal Architecture Within the Persianate World
Mehreen Chida-Razvi, SOAS, University of London, UK, *Chair*

Akbar's Fatehpur Sikri: Persianate Philosophy Writ in Red Sandstone

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Fatehpur Sikri (1571-1585) is often represented as the product of Akbar's singular intention to produce a new Indian society based on religious conciliation and tolerance. While this is true, the principles that shaped the city's urban design and forms were not as singular as has been thought. In my presentation, I will argue that the structures, spatial dynamics and overall design of Fatehpur Sikri were also informed by ethical texts known as akhlâq. These well-known and widely read treatises not only theorized the qualities of the ethical city and kingship in the Persianate world but also explained how these qualities rested on the ruler's acts of rationalism and cultural tolerance. Building an interpretative framework based on the akhlâq opens up a new vantage point from which to understand the Mughal city as part of an urban practice that can connect it to other building programs found in the Persianate world. In this presentation, I will consider how the principles of akhlâq texts like that of Nadir al-Din Tusi (1201-1274) influenced the urban plan and forms of Fatehpur Sikri and argue that the city was as much a means of bringing the ethical concepts of Persianate philosophy to life in 16th century Mughal India as it was a means of instituting a new set of Mughal urban practices.

PS22 Repositioning Mughal Architecture Within the Persianate World
Mehreen Chida-Razvi, SOAS, University of London, UK, *Chair*

Safavid and Mughal Urban Bridges: Garden Traditions in the Public

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In the Eighteenth century, when the French traveler, Chardin, visited Isfahan , he described Allah Verdi Khan bridge as one of the wonders of the Safavid capital. The main passage of the bridge was bordered by raised pedestrian walkways that included a few pavilions built on either side for people to rest and contemplate the water of the Zayandeh-River. At the time of its construction, in 1602, the layout of the bridge and particularly its attached pavilions were unusual and innovative. Beyond providing a passage over the river, the bridge served as public site of leisure and amusement. More than 2000 miles further east, the Mughal Shahi Bridge, constructed in 1568 in Jaunpur province of India, displayed similar elements.The booths on either side of the bridge, later replaced by chatris, would have served as excellent spots to pause and enjoy the view of the river.

Focusing on four Safavid and Mughal urban bridges, built between 1568 and 1650, this paper examines the novel layout of these public institutions in the context of Persianate architectural tradition of water art and visual interaction with water. While water had been an integral part of the design of imperial gardens and palaces, this study illustrates the dialogue that emerged between the imperial and public architectural discourse, during the period that both empires were formulating their architectural language. In the context of the Safavid and particularly Mughal riverfront gardens and pavilions amidst natural and artificial lakes, we can see the layout of these bridges as an extension of Timruid garden traditions. Therefore, in light of archeological and textual evidences and through formal and spatial analysis of these bridges, this paper demonstrates the dynamic intellectual, artistic and labor exchange that existed between the two dynasties, as each advanced their own version of their shared Timurid traditions.

PS23 Watery Networks
Sheila Crane, University of Virginia and Mark Hinchman, Taylors University, Malaysia, *Session Co-Chairs*

A Portuguese Colonial City **in-between** ***Asia, Africa and Europe***

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The early asian Gujarat cities that so impressed the Portuguese were largely a development of the late Middle Ages, when economic forces and historical events contributed to the prosperity and development of the area. At the time, interregional trade formed the basis of urban development throughout the western Indian Ocean, where coastal cities functioned as emporia facilitating maritime commerce. The creation of these cities owed much to the monsoon winds, but also arose out of the needs of wholesale traders to develop central locations for markets and services to maximize profits and deal effectively with the inherent uncertainties of seafaring. As a result, cities such as Aden, Hormuz, Diu, Cambay, Surat, Goa and Malacca developed as nodes in overlapping networks of maritime trade reaching from Europe to China.

In the late Middle Ages, trade throughout the Indian Ocean expanded greatly, tying the commercial affairs of the Far East and South Asia ever more closely to the Islamic and Mediterranean worlds. As a result, the Gujarat coast, formerly peripheral to the main trading network, became increasingly connected to the commercial and cultural affairs of the western Indian Ocean. Such changes in the scope and scale of the Indian Ocean trade the late Middle Ages dramatically increased the degree of cross-cultural contacts between India, the Islamic world, Africa and even more far away Europe. This paper will address the influence of this cultural encounter and will focus in Diu, a colonial portuguese settlement in-between Asia, Africa and Europe.

PS23 Watery Networks
Sheila Crane, University of Virginia and Mark Hinchman, Taylors University, Malaysia, *Session Co-Chairs*

Colonial Networks and Geographies at the Mostra d'Oltremare

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In May of 1937, less than a year after the conquest of Ethiopia and Benito Mussolini's declaration of an Italian Empire in Africa, the Fascist government passed legislation to organize the Prima Mostra Triennale delle Terre Italiane d'Oltremare in May of 1940—the first of a series of triennial exhibitions to be held in the Fuorigrotta area of Naples. This powerful demonstration of Italian imperialism in Africa was organized in three distinct sections to represent the historical, commercial and geographical significance of Italy's overseas possessions to a largely national audience. While the first of these sections attempted to legitimize the bellicose rhetoric of Italy's imperial politics, the latter two were directly aimed at the networks of economic and cultural exchange that were established under the auspices of its colonial expansion.

This paper will examine the Mostra d'Oltremare through its intermingling of networks of industrial and commercial enterprise that extended outwards from Italy to its overseas possessions with colonial geographies that were transported back to the metropolitan context. In the case of the Production Section, it will be studied through the publicity efforts linked to the exhibition as well as the displays of Italian products and services that were brought to the colonies. Of particular interest will be how the architecture presents Italian industry and commerce in a manner similar to events, such as the annual Tripoli Trade Fair (1927-39). With the Geographic Section, it will be examined through its literal transplantation of African landscapes and cultures on Italian soil. In an analogous way, in its blending of African forms and Italian construction systems, the architecture of this zone—such as the Libyan pavilion of Florestano Di Fausto—will be understood as form of racial hybridization.

PS23 Watery Networks
Sheila Crane, University of Virginia and Mark Hinchman, Taylors University, Malaysia, *Session Co-Chairs*

In Transit: Balkan Trade Cities along the Danube and Black Sea

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As a result of the privileges granted by the Ottoman Empire to European merchants in the form of "Capitulations", trade networks throughout the Mediterranean region steadily expanded from the sixteenth century onwards. While these networks stimulated the development of Istanbul and other port cities, during the nineteenth century they were also important for cities located within the commercial sphere of Bulgarian orthodox merchants.

The merchants in this community began to distinguish themselves as traders or wholesalers with the dissolution of the Capitulation's privileges during the Tanzimat period (1839－1876). Their trade activities, ranging from Central Europe to the Ottoman Empire passing through the Balkans, mainly took advantage of water transportation routes along the Danube and the Black Sea. The Danube route was exploited by Austria since the 1830s, becoming intimately connected with trade, and changing the economic topography of the Balkans. It led to a shift in main transportation pathways from inland highways toward steamship routes, and the development of port cities along the lower Danube and the Black Sea coast.

This paper discusses the formation of commercial quarters and buildings within port and inland cities at the southern part of the Balkan Peninsula (especially Bulgaria), from historical documents related to Bulgarian orthodox merchants. It identifies three main characteristics: the establishment of their own trade networks through emigration; the construction of commercial buildings such as the "khan" and storehouses; and the rental of buildings or small spaces among themselves for business.

The effects of long-distance trading networks in these cities are mainly local, rather than trans-continental, but we can see how the traditional Islamic mercantile space, formed under the Ottoman Empire in the South Balkans, was changed through maritime trade with Europe, and the existence of cultural conflicts at the urban scale between the Eastern and Western worlds.

PS23 Watery Networks
Sheila Crane, University of Virginia and Mark Hinchman, Taylors University, Malaysia, *Session Co-Chairs*

Yongningsi: A Ming Dynasty Temple Across the East Sea

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Between the years 1413 and 1432 the Ming dynasty emperors Yongle (r. 1402-24) and Xuande (r. 1425-1435) sent dozens of naval fleets, led by the eunuch-admiral Yishiha, from China across the East Sea to what is now Tyr, Russia. There, they constructed and later reconstructed Yongningsi, a magnificent Buddhist temple, unfortunately no longer extant, dedicated to the bodhisattva Guanyin. Though long overshadowed by the more famous sea voyages of Zheng He to Southeast Asia, India, Africa, Yishiha's missions constitute an important case study for examining how state power was borne through imperial architecture, even well outside the areas under direct Ming control. Specifically, I argue that the skilled craftsmen, precious construction materials, and new architectural style of the early Ming court were deployed from the capital as bearers of civilization. In this case, the targets of the civilizing mission were Jurchens, native Tungusic peoples whom the Ming government wanted to pacify in order to secure its northeastern borderlands. The sea itself factors heavily into this narrative by acting as a distancing mechanism and a stage on which the drama of the arriving forces—who, in fact, could have also undertaken the voyage overland—was significantly heightened.

PS23 Watery Networks
Sheila Crane, University of Virginia and Mark Hinchman, Taylors University, Malaysia, *Session Co-Chairs*

Post-war Mozambique, Western Legacies, and the Atlantic Ocean

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Since 1498, when Vasco da Gama passed the Cape of Good Hope and discovered the sea route to the East through the Indian Ocean, Portugal entered the trade with the region around the Zambesi river, in Mozambique. From that moment, across the Atlantic and Indian Oceans the Portuguese engaged in the New World slave trade: Prazos, Tsonga, Arabs and Swahili from Mozambique participated in the export of humans from the interior through Lourenço Marques to Brazil, Madagascar, and the sugar estates of the Indian Ocean Islands.

This essay analyzes the history of the contact between Mozambique and the Western world in the aftermath of World War II until 1974, year of independence and end of the Portuguese hegemony in the area. The paper shares neither the Eurocentric vision that has emphasized the heritage of colonialism in Mozambique's cities, nor the myth of Portuguese Lusotropicalism, as described by Gilberto Freyre. The essay offers a new framework for understanding transnational networks between Mozambique, Portugal, and Brazil: the view of a reciprocal exchange and transfer of knowledge.

Portuguese, Brazilian, and Mozambican architectural cultures did not simply meet in the process of creolization. In the works of Mozambican architects as João Garizo do Carmo, or in the buildings of Portuguese Pancho Guedes and João José Tinoco, Western legacies, Brazilian modernism, and traditional African knowledge informed each other, mixing and emerging as renewed vital forces in developing and shaping post-war city, architecture, and culture. These interrelations reveal a new genealogy of history and connection.

PS24 Environmental Technologies In History: Chicago's Role
Anthony Denzer, University of Wyoming, *Chair*

Every Room an Outside Room: Light Courts in Chicago Skyscrapers

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Chicago's high rises evolved radically through the 19th and early 20th century, but one element remained entrenched in the city's skyscrapers. The light court, a carved-out portion of otherwise lettable volume, persisted despite penalties in floor areas because of the need, in John Root's words, to "so arrange the building upon its lot that every foot within it shall be perfectly lighted."

Because of the city's large, regular street grid, Chicago's sksycrapers deployed these more frequently and more regularly than any other North American city. Even after the development of the incandescent light and the implosive pricing schemes of Chicago Edison made electric illumination affordable around 1910, the light court persisted in Chicago commercial construction. Indeed, the light court continued in an inverted form in the H-shaped plans of much later buildings such as the Board of Trade, where exterior voids continued to make every office "an outside room" even though such spaces were illuminated by electricity.

What accounts for the persistence of the light court so long after its illuminatory rationale was superseded? Floor plans and contemporary news accounts suggest that these courts also carried a less-celebrated function, that of ventilation. During the interwar years, Chicago buildings were still passively cooled, and the lingering presence of the "light" court in interwar buildings can be ascribed to the lag of air conditioning relative to lighting. This paper examines the evolution of Chicago's light courts and their rationale, seeing in their persistence a barometer of environmental technology. It concludes by showing how rapid technical changes around WWII finally spelled the end of light courts, which were replaced wholesale by central mechanical cores, electric lighting, and ducted air conditioning.

PS24 Environmental Technologies In History: Chicago's Role
Anthony Denzer, University of Wyoming, *Chair*

Chicago Air-Conditioning and F.L. Wright's Environmental Controls

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This paper explores two cases of environmental technology related to air conditioning that were developed in Chicago and subsequently adapted by Frank Lloyd Wright in buildings outside the city. In 1903 Darwin Martin of the Larkin Company in Buffalo, perhaps on Wright's suggestion, visited the Chicago National Bank Building (1899–1902) on West Monroe Street east of La Salle, designed by Chicago architects William Le Baron Jenney and William Mundie. This structure's system of mechanical ventilation was likely the model for that in Wright's Larkin Building in Buffalo, designed from 1902 and completed in 1906. Their selection and configuration of equipment for air conditioning correspond closely in details, even though architecturally, the Chicago building exemplified the neoclassicism that Wright rejected. The Chicago Bank Building's system for providing clean, cool, dehumidified air in a city whose smoke pollution was notorious made this structure a logical precedent for the Larkin Building, whose environmental systems had to counter similar conditions. In 1936–39, Wright developed his approach to air-conditioning in the "windowless" office building that he designed for the S.C. Johnson Company in Racine, Wisconsin. The closest completed example of such a structure was the National Aluminate Corporation's headquarters at 6221 West 66th Place, in Chicago's Clearing industrial district, opened in 1937. The building housed industrial research laboratories for a company that specialized in chemical treatments of water. Architect Ambrose C. Cramer and mechanical engineer Robert E. Hattis presented it as Chicago's first wholly windowless air-conditioned commercial structure. Its system was thought to be the only one of its kind in existence. This building was also among the first to use cold well water drawn from 300 feet underground whose temperature of 53 degrees F. much reduced the cost of air conditioning. Thus this building was using an early form of geo-thermal exchange.

PS24 Environmental Technologies In History: Chicago's Role
Anthony Denzer, University of Wyoming, *Chair*

Chicago's Privy Vault Problem: Regulating Building, Managing Risk

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Building regulation in Chicago emerged in response to an array of urban catastrophes – fires, epidemics, and collapse. This dramatic narrative of disaster has been the typical focus for historical accounts of building regulation in the United States. Chicago's privy vaults, which resisted attempts at regulation for over a century, create an alternate lens for understanding the debates and ideas that shaped the content, practice, politics, and techniques of regulation. The privy vault was variously targeted as a nuisance, a source of epidemic, and an indicator of social pathology, becoming the bane of real estate speculators, sanitation engineers, housing reformers, and urban planners. This examination of contemporary debates over the regulation of the privy vault yields an understanding of building codes as a proto-technology for environmental regulation. If the building code is an "architecture of architecture" (Huge, *Perspecta*, Vol. 35, Building Codes, 2004), the privy vault problem reveals how building codes operate to shape environments across a range of scales, from the region, to the city, and into the interior.

PS25 Resource Architectures
Meredith TenHoor, Pratt Institute and Jonathan Massey, Syracuse University, *Session Co-Chairs*

Architectural Labor from Socialist Countries in Iraq (1958—1991)

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Within the exchange of resources between European socialist countries and newly independent states in Africa and Asia during the Cold War, the labor of architects, engineers, planners, and technicians played an essential role as a portable resource of modernization. This paper discusses Iraq between Qasim's coup d'état (1958) and the first Gulf War under Saddam Hussein (1991), when architectural labor from socialist Bulgaria, Czechoslovakia, Hungary, Poland and Yugoslavia was deployed in the production of the master plans of Baghdad (1967, 1973), the General Housing Program for Iraq (1976-1980), and numerous housing estates, schools and universities, health facilities, and renovation projects. Rather than focusing on biographies of particular buildings or their designers, this paper aims at quantifying the role of architectural labor within Iraq's resource exchanges with the socialist block. Based on archival research, fieldwork and interviews in Central Europe and the Middle East, this paper reviews the organization of architectural labor; types of contracts (collective or individual); modes of remuneration on individual and state level (monetary or barter); economic modalities (exchange and gift economies); social and technical division of labor; taxation; mobilities, speeds, and patterns of labor circulation; but also studies individual motivation to work abroad and the working place as the site where new collective subjectivities were produced in post-dependency Iraq. Beyond the reductivism of the world-systems theory, architects from socialist countries in the Middle East will be studied as competing and collaborating with architects circulating within networks set up by Western international institutions, the British Commonwealth, and the Non-Aligned Movement. These various systems of global cooperation and solidarity—"multiple globalizations" as it were—contributed to the emergence of a world-wide market of architectural labor which continues to impact planetary urbanization processes until today, and the current planning of Baghdad is a case in point.

PS25 Resource Architectures
Meredith TenHoor, Pratt Institute and Jonathan Massey, Syracuse University, *Session Co-Chairs*

The Machine in the Backyard Garden: Nigeria's Land Grant Campus, 1961-69

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In 1961, Nigeria was selected for a long-term U.S. aid program - an extension of "America's backyard" to West Africa - channeled through funds and institution-building. Seizing the opportunity presented by the inception of three regional universities in post-independence Nigeria, the U.S. Agency for International Development created a university-building assistance program that shaped the Nigerian university after the American Land Grant University, with it emphasis on applied research in agriculture and technical fields. Through these campuses, located in rural areas otherwise controlled by traditional land tenure systems, the USAID could gain direct access to agricultural resources in order to experiment with agricultural reform, while cultivating Nigeria's "human resources" by the professionalization of farming.

This paper focuses on the planning of one such campus - the Ife University campus in West Nigeria -, which was conceived as an alternative to Maxwell Fry and Jane Drew's late-colonial University College Ibadan. Presenting a suburban-agrarian ideal, I argue that the campus' role was to elevate the social status of the farmer and the standards of living in the countryside against the lure of the city. While the campus was designed by an Israeli team, who envisioned the campus along the lines of *kibbutz* planning as a modernized rural collective community, the Department of Landscape Architecture at the University of Wisconsin was commissioned by USAID to oversee the maximization of the campus resources in terms of the management of soil, climate, and distribution of human bodies. Comparing British, Israeli, and American approaches to campus design in the Nigerian context reveals how deeply embedded are the histories of resources, their design and definition as such, in competing notions of "development."

PS25 Resource Architectures
Meredith TenHoor, Pratt Institute and Jonathan Massey, Syracuse University, *Session Co-Chairs*

The Jewish Agency for Israel - Designs for Cowsheds (1953-1967)

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This paper reconstructs and analyzes a specific agricultural production facility: the Jewish Agency for Israel's (JAI) cowsheds designs for the Ta'anakh region (south of the Jezreel valley) by architect Emmanuel Yalan (1953-1967). It argues that the JAI designs entailed a reformation of pre-state Jewish cooperative settlement patterns, the accommodation of bottom-to-top processes of design implementation and a reconfiguration of architectural knowledge and expertise.
The paper revises two common arguments in recent scholarship on the design of production facilities: [1] Production facilities had homogenizing effects on space in top-to-bottom processes of implementation; [2] such facilities eroded architectural agency in favor of managerial design expertise. By studying the designs of Yalan and his interdisciplinary experts teams at the JAI research centers the paper will explore three aspects related to the Ta'anakh cowsheds and to the JAI theory of resource distribution and implementation.

First, I explore the roles ergonomic codification of animal body, human body and agro-technical facilities played in mediating between in situ surveys and experimentation with settlers across the Jezreel valley and the optimization of agricultural production. Second, I examine how the JAI cowsheds were inscribed in a project aiming at the social integration of "Oriental" Jews (major community of settlers in the Ta'anakh). Thus, these facilities were conceived as incremental built-it-yourself light structures to support new settlers' gradual "maturation" into agricultural production, from subsistence to intensive farming. Lastly, I focus on their representation in Yalan's publications for the JAI. Ranging from functionalist optimization studies, to polyvalent construction manuals and regional development theory, the cowshed designs backed a larger institutional and architectural reflection on resource management under conditions of economic austerity. Theorizing the accommodation of discrete paces of territorial development within a specific territory, these designs articulated large-scale ‘irreversible' infrastructures and land distribution with small-scale design implementation for social consolidation.

PS25 Resource Architectures
Meredith TenHoor, Pratt Institute and Jonathan Massey, Syracuse University, *Session Co-Chairs*

Human Erosion in the FSA Migratory Labor Camps

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Between 1936 and 1942, the Farm Security Administration funded the design and construction of a series of encampments to house migrant agricultural laborers in California. Considered as resource architectures, these camps are ambivalent sites: they improved the daily lives of human resources while enabling the industrial rationalization of natural ones. Yet it is because they are situated at the center of 1930s debates about the systematic exploitation of natural *and* human resources that they are ideal sites through which to engage the tools of environmental history in the writing of architectural history.

Following the work of environmental historians who argue that ideas about nature are an essential part of how Americans have shaped their physical communities, this paper closely analyzes the environmental metaphors that made meaning of the migrants' labor and loss. Several historians have interpreted the FSA camps as sites designed to exploit human labor with brutal efficiency. This paper reconsiders this interpretation by analyzing the ways that human workers were implicated in environmentalist critiques that influenced the camps. Two dominant metaphors were used to explain the crisis of the 1930s. Most pervasive was the metaphor of the Dust Bowl, which blamed the choking clouds on drought—a singular, if devastating, natural disaster. A second explanation focused on the slow and insidious process of erosion, which blamed the loss of topsoil on human mis-management. When Dorothea Lange and Paul Schuster Taylor introduced the concept of "human erosion" in their advocacy for the FSA program, they paralleled America's systematic overexploitation of natural and human resources. This paper argues that some of the most active shapers and promoters of the FSA program had this larger critique of capitalist exploitation of workers and land firmly in mind as they designed, programmed, and documented the camps.

PS26 The Legacy of Totalitarianism
Lucy M. Maulsby, Northeastern University, *Chair*

The Milan Triennale After Fascism

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The fall of Italian fascism inaugurated the beginning of a transitional period for state-run entities. For the organizers of the Triennale di Milano, Italy's preeminent exhibition organization for architecture and decorative arts, this shift in government and the end of the Second World War involved a series of substantive changes to the organization and its goals. As with many state institutions, the Triennale was deeply entrenched in an outward display of fascist policy and propaganda from the late 1930s onwards. With the changes that came in 1945, the Triennale had both small and large scale issues to contend with, from the redesign of its logo and letterhead (which previously included fasces as a primary design element), to the reopening of their headquarters (the Palazzo dell'Arte) and most importantly to an ideological shift that now focused on postwar reconstruction and democratic ideals. This paper will examine the recalibration of the Triennale organization following the fall of the fascist regime in Milan in April 1945 in two parts. The first section follows modifications in institutional practices within the Triennale through an examination of correspondence between key figures at the Triennale and the transitional governments that controlled Italy after 1945. The second part of the paper demonstrates how this moment of deep political, social, and cultural uncertainty provided the organizers of the Triennale with new opportunities that were previously unattainable due to ideological and practical restrictions imposed by the fascist regime. Using the design and construction of the experimental housing quarter QT8 for the 1947 Triennale as a case study, this section will show how the transition out of fascism was not a clean break with fascist ideology but was instead informed by longstanding beliefs in Italian national identity coupled with desires for internationalization.

PS26 The Legacy of Totalitarianism
Lucy M. Maulsby, Northeastern University, *Chair*

The SAAL Spring: Revolution, Housing and Bureaucracy in Portugal

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Through almost half-century, the politics of social housing championed by the totalitarian regime that ruled Portugal from 1928 until 1974 were designed to mitigate conflicts. Initially the regime advocated housing models framed by a pastoral vision of the countryside, to accommodate the rural migration. Then shifted to an ambivalent housing policy that combined the ethos of the Nordic welfare state with the principles of a corporative regime as a strategy to open the country's economy, survive the fall of dictatorships in Europe, and preserve a colonial empire in Africa.From the collapse of the regime in 1974 until the first democratic elections in 1976, the transitory governments pursued social housing policies engaged in devolving the power to the people. The most notable initiative was the SAAL process, in which architects played a vital role as agents of a new paradigm of spatial agency, challenging the institutional practices inherited from the regime. Its guidelines combined technical expertise with citizens' participation, and championed the urban poor's right to the city. The ballast of the regime's bureaucratic apparatus would nevertheless prevail, thwarting the expropriation processes that were essential to develop the SAAL operations and boycotting the program's infrastructural support. Eventually, in 1976, the corporative state was reconstituted, though tailored in democratic fashion, and the SAAL process was extinct. Drawing on archival material used for my doctoral research, this paper will examine the SAAL operations developed in the city of Porto, and argue that notwithstanding their progressive agenda, Portugal's post-revolutionary housing policies failed to reform an institutional system able to circumvent the power relations established through the totalitarian regime's longue durée. This event became instrumental to pave the way for the state's withdrawal from the social housing sector favouring new housing policies that advocated private ownership and benefited the powerful real-estate and banking sectors.

PS26 The Legacy of Totalitarianism
Lucy M. Maulsby, Northeastern University, *Chair*

Property and the Politics of Public Housing in Milan, 1930-1960

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This paper will consider the legacy of fascism in Milan through the work of the Istituto autonomo per le case popolari di Milano (IACPM). Looking at a small number of projects constructed by the agency between 1930 and 1960, I will argue that while its mandate to construct "popular" housing did not change during these years, the mechanisms by which the IACPM acquired property for its projects evolved significantly in relation to the social visions and political means of the municipal, regional, and national governments that sponsored its work. As a result, the work of the agency, which is most often considered in relation to debates about architectural form and building technology, must also be examined in relation to its changing institutional operation during this period.

Founded in 1908 in order to systematize recent efforts to address the housing shortage that had plagued Milan since the late nineteenth century, the IACPM operated on the authority of the "Luzzatti" law of 1903, which established a legal mechanism for municipalities to expropriate land for public purposes. The IACPM was productive throughout the 1910s and early 1920s, and in the mid-1920s, like other housing agencies across the country, it was incorporated into the fascist state. The Fanfani Plan primarily shaped its operation after the war, emphasizing low-tech construction in order to boost employment. Four quartieri—Maurilio Bossi (1932-1938), Fabio Filzi (1935-1938), Cesate (1951-1954), and Harar (1951-1955)—will serve as case studies with which to examine changing land acquisition policies and their impact on the work of the IACPM. Through this analysis, my paper will show that fascism profoundly shaped the city in demographic and economic terms that are far less apparent but in many ways much more significant than the individual monuments, buildings, and large-scale planning projects that the regime sponsored in the city.

PS26 The Legacy of Totalitarianism
Lucy M. Maulsby, Northeastern University, *Chair*

The Communist Origins of Neo-Liberalism in Eastern European Cities

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The Communist regimes of Eastern Europe ruled for more than forty years after the end of World War II. These were the same decades that saw the emergence of suburbs, civil rights, and urban renewal in the United States, the collapse of colonialism in the global South, and strong postwar economies in Western Europe, Asia, and North America that empowered a rising middle class. Although often seen as isolated from these world events, citizens of communist countries also experienced these decades as culturally and physically transformative. The cookie cutter houses built by companies like Levitt & Sons and connected by multilane highways to urban downtowns were mirrored in the prefabricated apartment blocks of Communist cities linked by extensive public transportation networks to nearby industrial zones and commercial centers. Although traditionally seen in opposing terms, both of these environments offered up a vision of a better life to young striving couples and their children.

While it is widely accepted that the politics of European communism failed (and that the prefabricated apartment is less desirable than the single-family house), is it as clear that the regimes' urban and architectural strategies were equally deficient? This paper argues that the communist approach to urban development had the paradoxical effect of preparing cities to become model neo-liberal actors once the political regimes were defeated. The institutional and bureaucratic culture of communism centralized decision making, elevated managers and technocrats over designers, and kept the 'public' out of debates by limiting their ability to participate in the bureaucratic process. After 1989, this culture was coopted by wealthy and politically powerful individuals who used this existing system to further their own interests and continue to marginalize the public and its shared community concerns. Projects will be discussed from Ostrava, Czech Republic, Bratislava, Slovakia, and Cracow, Poland.

PS26 The Legacy of Totalitarianism
Lucy M. Maulsby, Northeastern University, *Chair*

Silencing Architecture after Franquismo

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A few months after the death of Francisco Franco—a de facto end to the 36 year fascist dictatorial regime(1939-1975) that followed the Spanish Civil-War(1936-39)—architect and intellectual Ignasí de Solá-Morales published two essays that assessed the development of Spanish architecture during Franquismo. With the country in the midst of the so-called Transición, the long period of institutional, social, and cultural transition to constitutional democracy, it would seem rather obvious that both essays were framed in terms of the relationship between politics and architecture. One was part of a magazine issue on “Architecture, Power, Ideology," the other was for the 1976 Venice Biennale, which central exhibit was dedicated to the role of the avant-gardes in confronting Franquismo. Yet, other than the explicit connection between the neoclassic aesthetics of the 1940s with early Franquismo, Solá-Morales disconnected architectural developments from “structural” political questions, turning instead to issues of craft, form, and technic.

With the two essays and their networks as case studies, this paper argues for a particular discourse emerging as part of the politics of the period. Solá-Morales’ willingness to empty architecture from ideological allegiances speaks not only of the institutional inertia of the regime and its censorship, but also of the ways in which a mode of architectural silence—the depoliticization of architecture—developed in accordance with La Transición. Key to the process was a pseudo-collective agreement on continuity, a détente of sorts regarding the legacy of Franquismo that smoothed over ideological debates and allowed many government members and institutions to remain in place. I contend that, in architecture also, silence was a strategy to put memory and history on hold. As an echo of concurrent debates on the autonomy of architecture, Solá-Morales’ critical silence points to a less local, pervasive legacy 20th century totalitarian regimes might have had in the discipline at large.

PS27 Building Practices in Transcontinental Migration
Ricardo Agarez, Ghent University and Pilar Sánchez-Beltrán, Universidad Nacional de Colombia, *Session Co-Chairs*

LC as Migrant: Encountering Chandigarh before Chandigarh

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This paper aims to trace the Latourian laboratory in situ practice Le Corbusier adopted in surveying the northern India region where he finally built “his” modern city of the twentieth century.

The call for papers suggests exploring transcontinental migration, and though Le Corbusier cannot be listed among those “experts” traveling to non-Western countries under the aegis of international agencies, the peculiarity of his encounters with India in the period following decolonization and the modalities of his journeys—twice a year, and for a minimum of one month, soon extended to longer residency—render LC a migrant himself, placing the old master among the paragons of these transnational currents.

When Nehru gave him the commission to design the plan of Chandigarh, Le Corbusier knew almost nothing about India; nevertheless he had to take on his shoulders its burden “to be a new town, symbolic of freedom of India unfettered by the traditions…[an] expression of the nation’s faith in the future,” to encapsulate Nehru’s vision and LC’s task.

I propose to look at the sketchbook Le Corbusier had during the three weeks of his first encounter with the gentle plain of Punjab and to apprise how his meticulous dialogue with the place, the inhabitants and the villages, and the sun and the shadow transformed his subjective planning practice into a creative anthropological survey.

The Album Punjab, the nickname of the sketchbook, consists of 55 pages. These are filled with impromptu notes, calculations, and remarks aiming to capture the needs the plan had to serve. No research of the beauty per se; rather a slow learning process of discovery guided by senses. No words on the monumental projects for the Capitol. The essence of the plan existed in this process of acculturation more than in any theory the master had previously conceived.

PS27 Building Practices in Transcontinental Migration
Ricardo Agarez, Ghent University and Pilar Sánchez-Beltrán, Universidad Nacional de Colombia, *Session Co-Chairs*

Operation Bolero *and the Transformation of British Architecture*

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"Numbers are nebulous like many other things." (Major-General King, 1942).

Between 1942 and 1944, with entry of the United States into the Second World War, Britain was to provide housing and services for an estimated 1,340,000 American troops. The subsequent operation, codename *Bolero*, required a complex integration of British civil service oversight, private contractors, and civilian and military labor with American military engineers, heavy plant and equipment, and military labor. Ultimately successful, *Bolero* gave stark definition to the different planning and building practices of the two allies. The operation also contributed to the radical transformation of the building industry in Britain.

Using War Office, Cabinet Office and other ministry archives, as well architectural and trade press of the period, this paper outlines the main issues confronted—construction in new materials and terrain, introduction of heavy plant and organizational capacity, expectations of accommodation standards, problems of nomenclature, measure and scale, and structures of contract and financing. The paper argues that it is to *Bolero* and similar military operations of the Second World War period, that the origins of the architecture of post-war reconstruction in Britain can be traced.

British contractors, once structured according to historic trades and materials, became large-scale, fully mechanized, industrial operators, with new forms of organizational structure developed to manage a diverse (in terms of skills and experience) labor force. At the same time, the British state, utilizing Royal Institute of British Architects standard forms of contract, restructured various ministries with the express purpose of building activity. Finally, as well as heavy-plant and new forms of concrete production, the United States armed forces brought with them steel and timber and the attendant construction techniques such materials require. British architects of the post-war period would be exposed to modern building techniques and technologies, state clients, and powerful contractors previously unimaginable.

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Rockefeller Center: A Case Study in Transnational Topographies

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Unveiled in 1931, plans for a seven-acre, rooftop park atop Rockefeller Center are evidence of how cultural migrations were central to the project's design by combining historic garden models with the future-minded possibilities of the skyscraper. At a time when garden design was being renewed by cross-breeding avant-garde experiments with classical traditions, the dialectics of the French formal garden and Rockefeller Center is a speculation that sheds new light on the origins and transnational expression of this iconic project, and the future of modern American landscape design. Following John D Rockefeller Jr.'s decision to fund the restoration of the palace and gardens at Versailles from 1923-32, this paper highlights how points of contact between Paris and New York were nurtured by geopolitically minded patrons like JDR Jr., and how patronage played a key role in the dissemination of landscape and building practices. Of special interest are a host of foreign and American trained designers who participated in the Center's landscape design - including the English born garden designer Ralph Hancock (1893-1950) who emigrated to New York in 1930, and the American born architect William Welles Bosworth (1869-1966) commissioned by JDR Jr. to oversee the restoration of 17th-century gardens in France. Taken together, these different actors situate Rockefeller Center at the crossroads of multiple disciplines, temporalities and geographies.

Following a conversation that took place between Versailles and the very heart of post-depression New York, this research explores how socioeconomic transfers were assimilated into modernity and points to the critical importance of aesthetic, economic, and technological migrations in the analysis of historical practices. Through discussing the mechanisms of transcontinental migration and their global span in the fourth decade of the 20th-century, this paper argues that cultural assimilation was cornerstone to the hybrid expression of modern American landscape design.

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Migration of Profession: Italians Architects in São Paulo, 1870-1933

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This paper aims at discussing the activity of some italian architects in São Paulo, Brazil, between 1870 and 1933, as key for a larger understanding concerning the History of Architecture and Urbanism in a crucial era of the world history. Driven by the profitable coffee export business as well as by the immigration of many italians, São Paulo could experience an overwhelming urban expansion, which drastically modified the city's landscape. Until 1870 it was known as a city “made of clay” and at the turn of the century, São Paulo was already marked by eclectic buildings belonging to several historical European styles and a profuse Italian workforce in the construction sector. Research on the construction of São Paulo and its relations with the italian workforce is not new; however, some questions need to be revised. It is imperative to go back to the history of several italian builders who have so far remained understudied. Such a study is needed to accomplish the effective contribution of the italians in the civil construction in São Paulo, the shaping of the labor market, the definition of professional fields between the engineer and the architect, and mainly the questioning of the transference and redefinition of the european construction tradition in São Paulo. It will be done by analyzing the activity of a technical office of architecture and engineering established in 1880 by the florentine master builder Luiz Pucci and subsequently by the florentine engineer and architect Giulio Michelli, there will be an analysis on the theoretical and practical contributions on the know how that reinvented the activity of Architecture and Urbanism in the city of São Paulo.

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Churches for Russian Migrants: Sullivan, Chicago, and Siberia

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The late nineteenth century saw a steady stream of immigration to the United States from the western regions of Russian Empire. Although lacking a well-developed administrative structure of Catholic Church in America, Russian Orthodox Church kept strong ties to diverse groups of immigrants through a practice of maintaining small parish churches in all newly created areas of compact Russian settlement. On March 16, 1903, Russian Orthodox immigrants in Chicago's Ukrainian neighborhood had gathered for the consecration of their new church – Holy Trinity Cathedral, designed by Louis Sullivan. The architectural genesis of this church ties it to the wooden structure of the Russian Pavilion at the Chicago's World's Columbian Exposition of 1893. The pavilion, designed by Ivan Ropet, shared stylistic and structural characteristics of a specific type of churches, serially constructed at stations along the new routes of Trans-Siberian Railway in 1890s and 1900s – a part of government policy of creating cheap and accessible places of Orthodox worship across vast territories of Russian Empire. Becoming a direct inspiration of Sullivan's cathedral, the pavilion's history continued beyond the Exposition. Its parts were later disassembled, moved to Streator, Illinois, and turned into a church where, until the 1960s, it served the religious needs of the local Russian immigrant community mostly employed in the region's coal-mining and glass industries. This paper examines ties between Russian Imperial religious “foreign” policies, exemplified in immigrant churches in Illinois, and “domestic” policies of a campaign of building churches alongside its new transportation network in Siberia. What are implications of viewing the developments on the American soil through a prism of Russian colonization policies in Siberia? I suggest that replication of the building type exhibited at the Exposition was very much a part of larger policies of Russification employed across the Empire.

PS28 Housing: Intersections of Architecture, Planning & Social Reform
Rachel Kallus, Technion and Yael Allweil, Technion, *Session Co-Chairs*

Housing for Spatial Justice

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This paper examines how the Women's School of Planning and Architecture (WSPA) engaged low-income housing. WSPA was an itinerant meeting of woman architects in North America for intense 2-3 week periods from 1974 to 1981. Women's Movement had gained momentum by the early 1970s. As part and parcel of this movement, woman architects started organizing through conferences and local associations. Their demands were generally establishment related, i.e., about fairness and equality at schools and in the workplace; WSPA was unique in this sense, proposing alternatives to mainstream practice: Aligning with other marginalized women, specifically, low-income single mothers in dire need of housing, and of ethnic and racial minorities, would support their broader cause.

WSPA's turn to the field of low-income housing sought to address issues of professional and social injustice together. WSPA sessions aimed to raise consciousness about the gender impact of suburban housing, and advocated inner city revitalization and historic preservation for low-income housing provision. At WSPA, participants collectively developed an understanding of the spatial dimension of social justice, that is, of "spatial justice," a term recently coined by LA-based urban geographer Edward Soja.

WSPA's collective learning environments guided several of its founders and participants to enter into the field of low-income housing as architects and developers—as in the example of Women's Development Corporation, a developer of low-income housing active since the 1980s in Providence, Rhode Island, and with whom the author collaborated on a documentary project earlier. This paper shows how WSPA's interest in housing was nurtured directly by the federal government at a moment when federal policy was shifting from a project-based approach to tenant-based assistance, from centralized provision of units to dispersal housing programs.

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Learning from Architecture and Revolution

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The Housing SAAL (Serviço de Apoio Ambulatório Local) operations (1974-1976) were created in Portugal following the democratic revolution that took place some months before, in April 25 1974. Its complexity is even greater as it had a meteoric success carrying 176 housing operations conducted by the technical brigades who had completed on-site projects and given support to the population.
SAAL process was important as an alternative way of making the city with popular participation and integrating Gedde's and Howard's Garden City principles adapted to a southern culture. The usual high rise buildings which constituted the basis of the "the great ensembles" high density housing built till then, were substituted by low-rise buildings, in accordance with the Germans B. Taut and E. May Siedlung or Israel's Kibbutz cooperative housing models from the twenties and thirties. SAAL pointed out the end of the Athens Charter influence and brought innovation using different spatial organization and constructive methods.
The aim of this paper is to analyze SAAL's process in relation to the former experiments mentioned before, using two key studies: Alvaro Siza's neighborhoods designs (Bairro da Bouça in Oporto; Quinta da Malagueira nearby Évora), in order to reveal how successful this process was as an alternative way of housing in the scope of extreme circumstances linked to active social and political movements.
By describing the political and building process, this paper tries to identify the link between popular participation and design methods in order to discuss housing as the main innovative architectural program with consequences in everyday life. It argues that a form of intervening in the city, which questioned the traditional planning forms, was implicit, revealing the complexity of a stance that understands reality in its physical, socio-cultural and historical totality.

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"Unplanned Plans": Urbanization in 20th Century Turkey

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Turkey has largely been urbanized based upon city plans that were produced in the early decades of the 20th century. Ankara, the capital city of Turkey, was a model for the whole country not only because of its modern buildings, but also its 1927 master plan by German architect Hermann Jansen, whose Garden City-inspired proposal contained single-family houses surrounded by private gardens.

Over time, this idea of a private unit of land was transformed into a "plot" (parsel in Turkish). This smallest unit of the city –parsel – has subsequently given shape not just to Ankara, but also to all cities in Turkey as a basis for designing housing.Under such a paradigm (or stenciling pattern), no one needs to (re)think about how to design, a situation that produces what the author terms "unplanned plans." After many decades, it is easy to recognize the genesis of the "parsel," constantly reproduced and stamped out all over Turkey. The conception of that urban structure is so deeply ingrained that it has not only shaped the big cities of Istanbul, Izmir and Ankara, but also small towns and even villages in quite different scales,regions, social characteristics and topographical conditions.

This paper asks the question: "How can such a large country with diverse particularities have been unified under the idea of a "parsel"? What has the role of the state and land-politics been in this? The paper attempts to understand the history of the "parsel," which also has its roots in the economy politics of urban land. Without changing such land-politics, it is impossible to change Turkish society and its reflections on housing. Understanding the meaning of "parsel" in the case of Turkey may help open the way for social changes that have become quite needed, particularly in the last decade.

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A. Lawrence Kocher, Preservation and the Minimum House

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This paper explores the work of architect A. Lawrence Kocher to demonstrate the relationship between historic preservation and experiments in affordable, prefabricated housing in twentieth-century America. Kocher is best known for his design with Albert Frey of the Aluminaire House (1931), the first all-metal prefabricated house built in the United States. While this house fits easily into standard narratives that define experimental architecture as projects demonstrating novel construction techniques and material invention, my paper works to broaden our understanding of architectural experimentation to include forward-thinking undertakings in print media, education and preservation. I am specifically interested in how the idea of craftsmanship —- work done well for its own sake —- creates a conceptual bridge between architects' material and ethical practices. My investigation into this idea relies on the equal consideration of three conceptual spaces. First, I examine the pages of the architectural journal Architecture Record, through which Kocher, as editor from 1927 to 1938, introduced the tropes of Modernism and mass-production into American architects' consciousness. Second, I describe institutional spaces like Carnegie-Melon University and Black Mountain College (1939-42), where Kocher physically constructed prototypical post-war houses with students. Finally, I analyze the space of Colonial Williamsburg, where Kocher was appointed editor of Architectural Records in 1944. Ada Louise Huxtable would later dismiss Colonial Williamsburg as "an exercise in historical playacting." Kocher's trajectory, from researcher to avant-garde designer to preservationist, undermines standard narratives of twentieth-century housing in America. He embraced both historical detail and mass-produced technologies and linked them to a vision of American citizenship. This study provides insights into how ethical agendas are crafted into the built environment at all scales and how these built ethics concretize race and class division in the American context.

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Housing and Revolution as Industry, 1938-1960

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Industrialization and the rise of the metropolis along with its economic structure based on speculative development are typically seen as the culprit of the housing problem of the late nineteenth and the early twentieth centuries. During the second quarter of the twentieth century however, housing as a social and economic issue preceded industrial development in a number of settings. Especially in the developing regions of the first and third world nations, housing and construction was conceptualized as the foundation of a new national social and economic structure with ties to transnational systems of finance and governance. Within these contexts, products and settings of American domesticity were not just propaganda pieces lauding the achievements of American systems of development. The financing, production, and dissemination of systems of housing and construction comprised the very components of a world economic structure.

This paper critically examines the work of Charles Abrams and his collaborators in multiple settings such as India, Turkey, Ghana, and the United States and shows how Abrams conceptualized housing and land economics as an industry and as the underlying structure of a world system to regulate speculative finance, to prevent social unrest, and to create models of development compatible with the recommendations of international agencies of world finance and governance. The paper examines the components of Abrams' program from his approach to policy development to his conceptualization of training and education to create a transnational network of experts and agencies in housing and planning. Through this analysis, the paper discusses the formal and informal components of his program showing how he devised housing and construction finance both as a world system and as a regionally responsive planning practice. Abrams' recommendations were often tailored to specific social and economic contexts and can be seen as the precedent to today's micro-finance schemes.

PS29 Darwinism and the Evolution of American Architecture
Gregory Grämiger, ETH Zürich, Switzerland and Niklas Naehrig, ETH Zürich, Switzerland, *Session Co-Chairs*

What Does Sullivan's Architecture Sound Like?

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Louis Sullivan, in collaboration with Dankmar Adler, put a tentative set of ideas to the test in the design of the Auditorium Building (1886–89) in Chicago, a project which not only advanced the integration of components derived from different types into a single opus, but also housed the office of the architects on the top floor of the tallest structure in the city. Among the guiding notions behind the project was the proposition that architecture would evolve in a number of correlated ways. To acquire a future of its own, it would need to generate complex new organisms and materialize them aesthetically as well as technologically. This concept had yet to coalesce in Sullivan’s mind, as he was still laboring in the wake of European manifestations of another art form: steeped in concepts of self-propelled evolution, music had made enormous strides toward a future uncharted by convention. The works of Richard Wagner in particular reached Chicago early, and having been introduced to them by the German immigrant architect John Edelman, the young Sullivan came to realize that what he hoped to achieve in architecture was in fact already manifest in Wagner's music. Inconclusive attempts to link Edelman’s achievement as an architect with that of his protégé only reveal that Edelman was guiding Sullivan outside his field rather than reinforcing the primacy of architecture, exemplifying one of the most exciting turns in the accelerated transformation of the arts toward the turn of the century: the rapid transfer of aesthetic ideals and the adoption of technologies from one field to another which accompanied the diffusion of the concept of evolution from biology to aesthetics, from music to architecture and engineering, from Europe to Chicago, spanning the gamut from naive to professionally grounded practice.

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On A Pre-Darwinian Episode: Horatio Greenough's Functionalism

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Horatio Greenough (1805-1852), the Bostonian sculptor, is an important intellectual of the antebellum United States. The sculptor is renowned for his two colossal pieces that were placed on the grounds of the U.S. Capitol, "Rescue" and "George Washington," together with his writings on architecture compiled in "Form and Function"(1947), which were excerpted from his unpublished manuscript "The Travels, Observations, and Experience of a Yankee Stonecutter." Greenough's writings specifically selected in 1947 echo principles of modern architecture to a surprising degree, such as truth to material, refrain from ornament, the machine analogy, the building's adaptation to the site, the organic growth of form and the expression of the inside on the outside. Therefore texts of architectural historiography, especially written during the 1940s and 1950s when functionalism was strong, regard him a proto-modernist who influenced the course of 20th century functionalism and modern architecture. However, the neo-classicism of his sculptures, his preference for the Doric as the proper order or his views on slavery in direct connection to his functionalism were excluded from "Form and Function" and remain unquestioned. This apparent contradiction demands a better understanding of Greenough in 19th century architectural theory and the history of functionalism. Greenough was not exposed to Darwin's theory of evolution but his ideas on adaptation and function were influenced by the prevailing Unitarianism in Boston, and by the teaching of William Paley's Natural Theology at Harvard University. He was also introduced to Lamarck and Cuvier regarding evolution during his travels and the two decades that he spent abroad, mostly in Florence. When his exchange with Ralph Waldo Emerson regarding his manuscript and his views on slavery, society and science are re-contextualized against antebellum Boston's rich cultural history a much different reading of Greenough is possible.

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Ornament and Evolution in 'The Age of Force'

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Louis Sullivan's laboriously ornamented commercial buildings remain as curious artifacts that hover in a space of contradiction. Oscillating between florid expression on the one hand, and technical rationalism on the other, the tectonic valance of Sullivan's commercial buildings has often obscured a consideration of the broader discourses that would shape the architect's peculiar doctrine. In 1959, Vincent Scully rationalized the role of Sullivan's ornament by suggesting that it accentuated the vertical, tectonic thrust of the building in "an age of force." Yet Scully's justification for Sullivan's ornamental compulsions could not quite hold when applied to the architect's often ignored financial commissions, built in the American Midwest in the early twentieth century. Whereas the excessive tangle of vegetal ornament on and in his skyscrapers emitted a sense of instinctive, kinetic vitalism, the "force" behind Sullivan's ornament in these smaller-scale banking institutions produced, instead, a contrived effect, one which rendered nature as a feigned condition of ersatz atmospherics.

This paper takes Scully's statement to task by probing the forces that motivated Sullivan's treatment of botanical references to furbish economic progress. An examination of Sullivan's interest in the decorative arts, and Christopher Dresser's designs in particular, reveals connections to nineteenth and early twentieth century scientific and economic theories based on deterministic principles of evolutionary biology: Richard Owen's practice of comparative morphology; Charles Darwin's theory of "natural selection"; Herbert Spencer's comprehensive scheme of progressive development; and Richard T. Ely's and Thorsten Veblen's models of economic competition and evolution. Through a close reading of Sullivan's Midwestern bank commissions, in relation to these aforementioned theories, this paper proposes that Sullivan's ornament sought to symbolize economic development as an extension of "natural law" and thus naturalize the emergence of (and alienation attendant to) increasingly abstract forms of capitalist exchange at the turn of the twentieth century.

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A Living Art: Evolution and a Modern American Architecture

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Writing in 1959, Richard Hofstadter pointed out the wide-ranging intellectual consequence of Darwinism and evolutionary thought in the nineteenth century, as evolutionary theory, adopted from the biological model, became popularized and was widely accepted in the United States in the years following the Civil War. Two influential proponents of evolution as applied to the development of a modern American architecture were the prolific architect-critics Russell Sturgis (1836-1909) and Peter B. Wight (1838-1925).

This paper will examine their writings as they espoused the idea of evolution as key to developing a modern American architecture. Both had begun their careers as followers of Ruskin and were among the co-founders of the American Pre-Raphaelite movement. They were advocates of the works and writings of Viollet-le-Duc. Through their writings and historical analyses they described a new architecture that was developing by evolution, not through eclecticism. Both believed, not only that architectural styles had evolved, but also that an understanding of historical styles was necessary for a style to continue to evolve. Both espoused the idea that a new American architectural style, based on evolutionary principles, was being developed in the Midwest and described its manifestations so other architects would be inspired to further develop an American style, one that could be characterized as a "living art" that would continue to grow and evolve. Among their subjects, analyzed in both aesthetic and functional terms, were the skyscrapers of Louis Sullivan and John W. Root, the utilitarian warehouses of George C. Nimmons and Schmidt, Garden and Martin, and an array of American country houses. These will be presented as illustrations of evolution as it was manifesting itself in a new American style.

PS29 Darwinism and the Evolution of American Architecture

Gregory Grämiger, ETH Zürich, Switzerland and Niklas Naehrig, ETH Zürich, Switzerland, *Session Co-Chairs*

Evolutionary Tectonics: Race, Style and Variation in Der Stil

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In this paper, I argue that the evolutionary framework of Gottfried Semper's architectural ethnography established a conceptual parallel between 'race' and 'style' categories in German tectonic theory. In his treatise Der Stil (1860-63), Semper claimed that style was the natural result of extending the evolutionary laws of ethnographic history to design. In his attempts to develop this "practical aesthetic," he considered 'race' and 'style' to be two distinct type forms on a rational continuum: while nature used biological processes to stylize living organisms, architects employed biological metaphors to stylize physical artifacts. This natural law enabled Semper to see material culture as visual representations of the essential characters of racial and ethnic groups. Although architectural historians have explored the anthropological basis of Semper's style theory, the racial assumptions that were an immediate consequence of his theoretical approach have not yet been fully explored.

This research examines the racial content implicit in Semper's explanation of material transformation. He used the biological term Stoffwechsel to explain the structural dynamics behind material transformations at every level of life, from the physiological and racial variations operating within cultural groups to the morphological transformation of their material culture. The transference of the synchronic principles of singular developments to a diachronic model of material evolution changed architectural design into a simulated process of natural selection. While the general dynamics of this system loosely parallel Darwinian models of evolution, Semper's reliance on reason made the architect's personal interpretation of cultural differences a crucial question for design.

LT30 Graduate Student Lightning Talks
R. Scott Gill, University of Texas at Austin and Jennifer Donnelly, University of Pittsburgh and Tait Johnson, University of Illinois at Urbana-Champaign, *Session Co-Chairs*

The Work of Art: Landscapes of Labor in the American Southwest

Pollyanna Rhee
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This talk examines landscape architect Warren Manning's 1906 design for the Calumet and Arizona Mining Company of Warren, Arizona near the Mexico border. Envisioned as a modern, sanitary alternative to the perceived disorder of the nearby mining town of Bisbee, Manning utilized his experience working for Frederick Law Olmsted to create a town plan that reminded one contemporary writer of the Amalfi Coast but with Spanish Colonial architecture. Though company officials modified aspects of the design in partial response to labor unrest, much of Manning's original layout remained, including a park that became the site of the 1917 deportation of hundreds of workers associated with the Industrial Workers of the World. Focusing on Warren provides a means to ask questions about the relationship between labor and architectural histories, and the ways that ideas about healthy landscapes came to realization in built form in the Southwestern copper region.

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Modern Landscape Architecture: The Persian Legacy of the 1970s

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This paper examines the features of modern landscape architecture in Iran as the legacy of Pahlavi Dynasty (1925-1979). At the invitation of Mohammad Reza Shah in the 1970s, international planners and designers attended Iran to participate in the state's design projects. The attendance of figures such as Ian McHarg, Louis Kahn, Llewellyn Davis, and Jacqueline T. Robertson and their cooperation with local experts provided opportunities to define modern landscape architecture on its Iranian grounds. As a summation focused on the built and unbuilt landscape designs emerging from these opportunities, we will explore the features of this cultural landscape. These projects all shared one principle in their design thinking: modernization of tradition. This developed from Shah's will to demonstrate the power of monarchy and to incorporate the modern institutions into the Iranian lifestyle. We will briefly investigate these design thoughts and their relation to tradition through case studies of international significance.

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(De)centering: Where in the World is Modern Architecture?

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Modern architectural historiography is founded upon stylistic and formal interpretations of narrowly curated European ideals, but how exactly was this canon constructed, and when? Dismantling these foundational prejudices and exposing the fabricated nature of the canon should reveal points of convergence between multiple strands of competing modernist thought, as well as points of divergence that have been obscured by the polemics surrounding the modern architectural debate. Maintaining an awareness of the power/knowledge structures informing the original conversation, it is hoped that an investigation of the canon's construction will move analysis of modern architecture beyond the narrowly defined center, perhaps making room for a multiplicity of centers of influence at various points in the modern architectural movement and at the very least challenging the traditional center-periphery split and related international-regional divide in modern architectural historiography. Various narrative solutions, including discourse or translational approaches, might provide a methodological way forward.

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Catherine Bauer: The Global Dissemination of Optimum Urbanization

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Catherine Bauer, who co-authored the 1937 US Housing Act, became an advocate and mediator for integrated housing research at the global scale during the latter phase of her career (1950-1964). As a consultant to the United Nations and armed with a vision to achieve an Optimum Pattern of Urbanization based on local conditions, Bauer organized a series of international housing conferences to aid individuals and agencies concerned with shaping public policies to share up-to-date knowledge. This facilitated the worldwide dissemination of design ideas and solutions to design educators.

Using archival materials that have rarely been consulted, I demonstrate Bauer's important role in the global exchange of ideas, and the way she broadened the horizons of the housing and planning movement, not only by promoting universal modernism across continents, but also through encouraging local planners to solve problems, and through publishing extensively on its larger social implications and consequences.

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Kashan's Pre-Modern Silk Textile Workshops and Production Practice

Nader Sayadi
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In this paper I discuss the patterns and architectural features of a type of pre-industrial silk textile craft workshop (known as sharbafi) in Kashan, a city located in the Central Iran Plateau. The history of these workshops can be traced to the late-sixteenth century, which was the heyday of the international silk trade. These workshops are constructed based on repetitive modules, shaped by loom units, with each of these loom units attached to four adobe columns, rectilinear in shape capped with a dome on top. Additionally each loom is designed based on the human (the weaver) scale. This study also discusses the other aspects of the bilateral relationship between the silk textile production practice and the built environment in a broader sense. This paper is a concentrated case study of the Mohtashami workshop in the Koushk-Sefi neighborhood in Kashan, as a part of a larger study of craft landscapes in pre-modern Islamic countries.

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The Funerary Fabrics of Úbeda

Luke Fidler
University of Chicago, Chicago, USA

During the mid-sixteenth century, Spanish tomb sculptures evolved particular techniques of commemoration and display. Architectural settings-whether in the immediate context of a funerary chapel, or the broader urban landscape-worked in concert with sculptures to construct commemorative space. Commissioned by the Imperial Secretary to Charles I, the chapel of El Salvador in Úbeda is a suggestive case study with which to examine the architectonics of sixteenth-century death. Designed in part by Diego de Siloé and completed by Andrés de Vandelvira, it borrowed aesthetic strategies from contemporaneous tomb sculptures. It also appropriated the surrounding urban fabric in a monumental project of commemoration. Examining El Salvador alongside more recent negotiations of concealed and dramatized bodies (such as the TERRAFORMER project in Chicago) I argue that the chapel should be understood as the key to an urban environment shot through with death.

LT30 Graduate Student Lightning Talks
R. Scott Gill, University of Texas at Austin and Jennifer Donnelly, University of Pittsburgh and Tait Johnson, University of Illinois at Urbana-Champaign, *Session Co-Chairs*

Interrogating the Dead: Reassessing Cultural Identity of Makli

Munazzah Akhtar
University of Victoria, Victoria, Canada

In current art historical scholarship on South Asia; there has been a tendency to classify historic sites developed by a Muslim ruler as 'Islamic', and a Hindu temple as 'Indic'. Such classification systems, based on geographic or religious identities, fail to acknowledge the complexities of intercultural interactions. The necropolis of Makli at Thatta (in present day Pakistan), a UNESCO world heritage site, generally classified as ‘Islamic' in character and style, presents an opportunity to examine this important methodological issue. In my research project, I am reassessing the artistic program of selective monuments in Makli necropolis to prove that they evince a hybridization of style, concurrently reflecting the ethnic, cultural and religious diversity of medieval Thatta. Rethinking categories, I propose, will lead to a deeper understanding of the historical and social context of these monuments, and of their more meaningful sub-categorization within the master narrative of 'Islamic architecture'.

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Regional Variation in the Architecture of the Early Modern Dead

Jonathan Kewley
Durham University, Durham, UK

In burying grounds on both sides of the anglophone Atlantic world, seventeenth- and eighteenth-century men and women were erecting structures in memory of their dead. These might be substantial tombs or humble wooden markers, but all marked the place of burial and commemorated the deceased.

They are not, however, a homogenous corpus; rather, there is substantial but hitherto largely- unexplored regional variation. Drawing on and analysing the most extensive fieldwork ever undertaken, this lightning talk will show that there were three stages: first, substantial uniformity as commemoration recovered from the trauma of the Reformation; second, the growing divergence and confidence of local design schools from the mid seventeenth to the mid eighteenth centuries; and finally the loss of this diversity as better transport and communication favoured the emergence of dominant national styles in the United States and England.

LT30 Graduate Student Lightning Talks
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The Mid-Century Bachelor's Apartment: An Image of Spectacle

Jason Derouin
Texas Tech University, Lubbock, USA

During the mid-twentieth century, magazines such as Esquire, Playboy and Rogue included features on modern living that persuaded single, independent men that an elegantly appointed home would facilitate intimacy. Designers' schemes that accompanied the text laid out whimsical pastiches of architecture and décor that would, if realized, give rise to bewilderment, and consequently effect seduction. In this way, readers were advised about their homes, as well as the purchase, placement and collective power of furnishings. This study of the pictorialization of bachelor culture implements Guy Debord's formulation of spectacle. The illustrations of fictitious apartments considered here elaborate conventions of retail display, including mechanization, accenting commodity fetishism and accumulation of capital. I propose that the potency of the bachelor pad derives from spectacle.

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Susan Sontag - Camp Encounters with Architecture, 1964-1966

Christina Gray
University of California, Los Angeles, Los Angeles, USA

This line of research examines the role of Susan Sontag and her formulation of camp situated within the realm of architecture. Sontag's public intersection with architecture began in 1965, a year after her publication of "Notes on Camp," when she interviewed Philip Johnson at the Seagram Building for BBC Television. In further interviews Sontag discussed the relationship of sentimentality to architecture, closely aligning architecture with photography. Utilizing the Susan Sontag Archive at UCLA, examinations of her personal journals kept during a trip through Europe in 1966 further reveal her musings on an expanded definition of camp as she visited buildings ranging from Bernini's work in Rome to Horace Walpole's Strawberry Hill. This ongoing research, works to address the hypothesis that kitsch represents a key vehicle wherein architecture is explicitly linked to other disciplines during the late 1960s and 1970s.

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Defense, Destruction, Opportunity: Wartime Housing Exhibitions

Erin McKellar
Boston University, Boston, USA

As the Second World War initiated defense building projects, destroyed cities from above, prompted material shortages, and demanded participation from average citizens, housing advocates on both sides of the Atlantic recognized an unexpected opportunity to rethink dwellings on a mass scale. In America and Britain architects and housing experts sought public support for their ideas during wartime, promoting them in a series of exhibitions. These displays demonstrated present housing needs and proposed that new materials, modern building techniques, and careful planning would modernize dwellings and revitalize communities for decades to come. This presentation examines Wartime Housing (1942) and Rebuilding Britain (1943) to illuminate the ways in which exhibition coordinators in New York and London, respectively, framed the conflict as a valuable opportunity to create better housing for all. In so doing, they anticipated an improved postwar future, reassuring visitors that the conflict's end would bring about a better world.

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Modern Architecture in the Papers: A Popular Imagery of the Future

Marie-Madeleine Ozdoba
EHESS, Paris, France

The presentation will introduce the popular imagery of modern architecture published in American newspapers in the postwar era, as an object of study at the crossroads of the architectural project, commercial art and contemporary narratives of the future.

It will focus on project-renderings published in two major newspapers of Southern California, the L.A. Times and the L.A. Examiner, highlighting connections with the graphic culture of commercial illustration, from cars and fashion to supersonic jets: portrayed as architecture of Tomorrow, representations of modern architecture were deeply embedded in a visual culture bridging these categories.

I want to show that in the context of these newspapers, the visual appeal of architectural renderings, offering "glimpses of the future", has been implemented in response to a surrounding culture of glamour, and to the anxieties of the cold war.

PS31 Emotional Histories of Architecture
Greg Castillo, University of California, Berkeley, *Chair*

Postcolonial Historiography: An Emotional Revision

Farhan Karim
University of Kansas, Lawrence, Kansas, USA

An emerging theme in recent postcolonial scholarship investigates how World Bank, the UN, the US Point Four Program, and the Ford Foundation used spatial discourse to advance America's global Cold War strategy in the Third World. The general methodological focus of this emerging scholarship is on the macro-scale structural politics, which overlooks the emotional world of the western architects who were sent as expert-consultants to the Third World. These expert-consultants, having been portrayed in the conventional scholarship as nothing more than a cohort of cold-hearted delegates of the modernization process, were eventually petrified as impersonal chess pieces of the global Cold War. However, the archival documents of their personal papers, including travelogues, diaries, journals, photographs, marginal notes on a variety of documents, and the numerous letters they wrote to their friends at home, capture vivid accounts of their encounter with third world poverty and ceaseless grappling to decipher foreign socio-cultural contexts. The emotional turbulence not only shaped their worldview but affect their professional decisions as architects. In order to integrate these documents, which possess no less vigor and vivid emotional edge than the battlefield letters of soldiers, into architectural history, requires a new historiographical approach.

As a case study, this paper studies the Etawah Pilot Project – one of the largest rural development projects in South Asia, conceived in 1947 by Jawaharlal Nehru and American architect-planner Albert Mayer. Supported by the Ford Foundation and USAID this project lasted for about one decade and covered 67,000 villages in India. Tracing Mayer's emotional involvement in the project through his letters to friends as primary evidence, this paper attempts to understand how "emotion" worked as a catalyst to shape Mayer's idea of India's postcolonial modernization through rural planning and residential design.

PS31 Emotional Histories of Architecture
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American Cool, American Houses: Modernism and its Critics

Hilde Heynen
University of Leuven, Leuven, Belgium

In an infamous 1953 editorial, House Beautiful editor Elizabeth Gordon attacked modernist architects for ignoring basic human needs for individuality, comfort and convenience. As a result she was heavily criticized for daring to attack modernist architects in such an "emotional" and "irrational" manner (Penick 2014). A couple of years later, Sibyl Moholy-Nagy (1958) took Mies to task for failing to make a differentiation between public and private building needs and for thus ignoring the need for identification and privacy. Both women defended as an alternative a more home-grown, American modernism, that would take its clues from regional qualities and landscapes, and that would properly attain to interiority, comfort and privacy.

This paper aims to position these interventions within a long-standing dialectic between the notions of ‘warm' and ‘cold'. Already in the Weimar republic, the shift in the cultural meaning of these terms was quite significant (Lethen 2002). ‘Cool conduct' became a way of dealing with the anxieties generated by the First World War and a way of manly taking on the challenges of the future. This dialectic also pertained to architecture, as is evidenced from the discourses and practices of several avant-garde figures (Van Herck 2005). The ‘cool' attitude, which despises coziness and interiority and upholds sobriety and transparency, was further developed in postwar America, within a context that was increasingly veering towards ‘coolness' as an encompassing cultural style (Stears 1994). The interventions by Moholy-Nagy and Gordon were defending a logic of privacy, enclosure and emotional intensity that defied the avant-garde's heroism and technological fetishism. Hence they were confronted with criticisms that aligned them with mass culture, commercialism and women's concerns, thus effectively framing them in such a way that their threat to the intellectual dominance of avant-garde modernism was minimized.

PS31 Emotional Histories of Architecture
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Architecture of the Mask*: Evincing Japanese Humor*

Lisa Hsieh
University of Minnesota, Minneapolis, MN, USA

"How many modern buildings can you laugh at - with the architect standing beside you?" asks Charles Jencks in speaking of Takefumi Aida's built work (as well as other Japanese New Wave architects'). In Japan, by tradition, there exists a hierarchy of emotions. Laughter (*warai*), an emotion associated with happiness or amusement, is rated lower than other expressions - even below anger or grief. Humor shares the same stigma. However, amid its modernization, the Meiji Restoration sanctified the comic theater. In tandem, the emotive biases at large began to lift. Particularly, in the 1970s, a new wave of playful, even risible, houses cropped up: Kazumasa Yamashita's "Face House" (1975) with big round eyes, a toothy mouth and a gun-barrel nose (that Jencks thinks needs plastic surgery) and Takefumi Aida's "House Like A Die" (1974), which mimics the form of a die by the count of its windows and foundational supports, are just two examples. To throw light on this *laughable* trend in Japanese architecture, this paper examines Aida's housing designs and his atypical architectural representations - *archi-text* ephemera, *okoshi* drawings, and *samsaric* collages - abound with mischief, play and absurdity. Arguably, Aida's humor and his "architecture of the mask" are correlated. Drawing upon writings of Noh master Michishige Udaka's *The Secrets of Noh Masks*, social psychologist Hiroshi Minami's *The Psychology of Japanese People*, and literary scholar Howard Hibbet's *Chrysanthemum and the Fish*, the paper links Aida's work to Japanese theater, and makes explicit two distinct humor aesthetics: *yugen* (mysterious) vs. *zoku* (vulgar), at play in Aida's housing forms, which wrap a habitual abode in an infinitely manipulable and imaginative envelop. Thereby endowed with humor, "architecture of the mask" flouts the Japanese hierarchical order of emotions. We are welcome to laugh.

PS31 Emotional Histories of Architecture
Greg Castillo, University of California, Berkeley, *Chair*

Praying and Playing in 21st Century India's Theme Park Temples

Swetha Vijayakumar
University of California, Berkeley, Berkeley, California, USA

In India, a new kind of religious experience and a new age of religious architecture have arrived as sacred spaces turn into ‘spectacles' through an uninhibited adoption of entertainment technology and an unmistakable touch of Disney. "Imagineers" of contemporary Hindu temples seamlessly integrate traditional temple forms with high-tech Western elements, creating environments that captivate members of a young and increasingly affluent Indian society. This paper examines the first "theme park temple," Swaminarayan Akshardham, built by Bochasanwasi Shri Akshar Purushottam Swaminarayan Sanstha (BAPS), a young and prosperous Hindu sect. Unlike traditional Hindu temples, which invoke feelings of contemplation and divinity, Akshardham's edutainment rides and audio-visual exhibits fuse Hindutva, the notion of a culturally unique way of Hindu life deemed worthy of vigilant protection, to unapologetic proclamations of national pride. Visitors move through a narrative environment which portrays a golden age of Hinduism seemingly purged of any vestige of British or Islamic rule in Indian history, and which implicitly calls for a nation with Hindu supremacy after centuries of foreign invasion. If, as Monique Scheer suggests, the "socially conditioned physical body, its gestures and postures," is a critical component of habitus and the economy of emotions that it supports, Akshardham's environments and embodied practices represent not just a trendy fusion of fun rides and religious sentiment, but rather the template for a sweeping revision of Hindu devotional practices and their underlying meanings. The latter includes the roiling passions instigated by centuries of Islamic rule and provoked by the trauma of India's partition: the sitting of Akshardham temples maps a regional geography of Hindu-Muslim conflict, with temples located along the front line of historically violent clashes between the two communities.

PS31 Emotional Histories of Architecture
Greg Castillo, University of California, Berkeley, *Chair*

Object Lessons: Learning from Emotion in Enlightenment Architecture

Keith Bresnahan
OCAD University, Toronto, ON, Canada

During the second half of the eighteenth century, French architects and theorists turned increasingly to descriptions of the emotional and perceptual impressions made by buildings on their observers, as a source of authentic knowledge about the principles of architecture. This was not a proto-Romantic subjectivism, but rather an analytic and instrumental 'science of sensations' deeply informed by the dominant heuristic of sensationalist epistemology, which posited our immediate sensory and emotional engagement with the material environment as the basis of all ideas and action. Considering the impact of sensationalism on both architectural and educational theory in these years, this paper takes up the device of the site visit as a key site of understanding the culture of emotion around mid-century. Established—apparently for the first time—as an element of architectural pedagogy at Jacques-François Blondel's 'open' school of architecture, the École des Arts, these directed visits to buildings were considered to be of great curricular significance, students' emotional and perceptual responses to these structures confirming or (more often) correcting their prior understanding, and attesting to the inadequacies of drawing or theory alone to convey the true principles of architecture. In addition to its significance for understanding the architectural use of emotions ca. 1750, I briefly explore the resonances of this emotional pedagogy over the following decades, both in Blondel's later Cours d'architecture and in the central role given to emotional and perceptual response in the work of his students, among them Claude-Nicolas Ledoux and Etienne-Louis Boullée, and its resurgence in discussions of public architecture in the revolutionary decade 1789-99, when questions of architecture's emotional (and educational) power came once again to the fore.

PS32 Destroying and Constructing Reality: Material and Form Since 1800
Ariel Genadt, University of Pennsylvania and Eric Bellin, University of Pennsylvania, *Session Co-Chairs*

The Depth of the Surface? – Loos, van de Velde and (Im)Materiality

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In his seminal lecture of 1910 the Viennese architect Adolf Loos compared ornament with crime: what was originally meant as a witty attack against art nouveau and secession turned into a purist dogma of interwar modernism. Yet underneath the skin of this well-known controversy lies another layer of meaning, dealing with the truth and depth of the architectural surface as mask.

Both views refer back to Semper, who differentiated between covering and core – or between mask and truth – only to take oppositional trajectories: van de Velde thinks of the naked surface as “negative beauty” or “silence” that has to be “animated” by the forces of the artist to vitalize the “dead” material. Like Semper, he proposes this idea of dematerialization not as the antithesis to the specific character of materials nor against functional form, but as a way of showing how “necessary conditions” of architecture could be enhanced and surpassed to the point of oblivion, to transcendence. Loos on the other hand polemicizes against the ornamented shell as inorganic, retarded and pathological. This does not mean that he pleads for the bareness of the constructive core form or for the nudity of the material (respectively the human body), but that he argues for the clean and smooth covering, the correct dress, the inconspicuous, subtle, generalizable fashion – modeled on the standard of the (male) uniform – which operates as a neutral mask for the contemporary individual.

This essay offers a close reading of the two positions, unveils the references to Bötticher, Semper, Simmel, Nietzsche and Bergson, in order to discuss one of the paradigm moments of modernism, where radical different concepts of truth, materiality, masking and the human body lead to opposing theories about the ontology of architecture (art vs. culture) and incompatible surface practices.

PS32 Destroying and Constructing Reality: Material and Form Since 1800
Ariel Genadt, University of Pennsylvania and Eric Bellin, University of Pennsylvania, *Session Co-Chairs*

The Truth of the Surface: Terracotta in Early Skyscraper Design

Jasper Cepl
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One of the crucial among the “historical moments of confrontation between matter and form in architectural representation and production” (to quote from the session description) came with the rise of the skyscraper towards the end of the 19th century. Suddenly, architects faced a problem that had not been there before: Since the skeletons of iron or steel, which now allowed for the erection of high-rise buildings, had to be protected by some sort of fireproofing, architects had no choice but to conceal the material their buildings were actually made of.

Aware of the theories of Semper, Ruskin and others, architectural discourse widely acknowledged that the skeleton could not be shown as such, and that is was hence ‘in the nature of materials’ to conceal it. Terracotta became the preferred material to this task. In 1890 William Le Baron Jenney rightly proclaimed the advent of “An Age of Steel and Clay”. Though this ‘age’ was over by the 1930s, early discourse on the appropriate form of the skyscraper was heavily influenced by the need to explain how the surface of terracotta could still express the building’s structure — or even enhance it. The ‘modern’ idea to represent the buildings internals by curtain walls of steel or aluminum was widely considered to be against that reasoning. In 1909, architectural critic Montgomery Schuyler was heavily criticized when he suggested that the “logical skyscraper” was one covered by (cast) iron.

The paper will reevaluate the importance of terracotta for the early discourse on skyscraper design, specifically focusing on the metaphors of clothing and the analogies to the human body that were used to rationalize the complex nature of a layered building technique, which at the same time had to conceal *and* reveal a structure only to be represented but never actually to be shown.

PS32 Destroying and Constructing Reality: Material and Form Since 1800
Ariel Genadt, University of Pennsylvania and Eric Bellin, University of Pennsylvania, *Session Co-Chairs*

Imitation of Material as Perception of Knowledge

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Artificial marble experienced a new artistic input in the nineteenth century motivated by the reception of ancient polychrome architecture and materiality. This paper shows how architects presented stone imitations in their buildings in a skilful interplay with natural counter-pieces and also ancient spoils.

In the beginning of the nineteenth century, catalogues of large collections of decorative stones, taken from the early archaeological excavations in Rome, were printed. These publications classified the polished stones not only aesthetically, but for the first time also according to scientific petrographic criteria. Novel handbooks communicated recipes and design guidelines to imitate decorative stones. Furthermore, research was advanced to invent new pigments and dyes and to create artificial rocks with totally new properties.

We will show to which extent the catalogues and handbooks inspired architects to use a variety of natural and artificial stones in their designs. The materials did not only represent aesthetical luxury, but also symbolized the roots of civilization in antiquity and the achievements of scientific and technical development. In four case studies, we trace the role of imitation stones in nineteenth century prestigious architecture: the “Königsbau” of the “Residenz München”, the “New Hermitage” in St. Petersburg (both by Leo von Klenze), the “Kunsthistorisches Museum” and “Naturhistorisches Museum” in Vienna (both by Gottfried Semper). Petrographic observations and chemical analyses of material samples give an insight into new materials and production techniques and show to which extent the creative possibilities cleared the way for other synthetic stone products. The chosen examples mark different phases of the role of stone and stone imitations in architectural design.

This paper is part of an interdisciplinary project on the reception of ancient polychromy in the 19th century (ETH Zurich, Institute of Historic Building Research and Conservation) that is carried out by geoscientists, chemists and architectural historians.

PS33 After Analog: New Perspectives on Photography and Architecture
Hugh Campbell, University College Dublin, Ireland and Mary N. Woods, Cornell University, *Session Co-Chairs*

Building with Images: Digital Collage and Dirty Realism

Jesus Vassallo
Rice University, Houston, Texas, USA

During the past fifty years, documentary photography and architecture have become increasingly interdependent. Departing from Robert Venturi and Denise Scott Brown's infatuation with the photographs of Ed Ruscha and Stephen Shore, the relationship between architects and the photographers in the documentary tradition has gradually become closer and more instrumental, resulting in recent collaborations between architects and artists such as Herzog & deMeuron and Thomas Ruff. It is precisely in retracing the chronological radicalization of the concept of superficiality between the aforementioned examples that one notices the deep and transformative effect that digital technology has had on the relationship between photography and architecture.

This paper seeks to interrogate the contemporary and future potentials of such lineage of trans-disciplinary collaborations as transformed by technology, by situating and foregrounding a new generation of young photographers and architects who are operating in a mode consisting in the production of digital images of architecture made from photographic fragments of reality. As opposed to previous generations, the pairs of designers and artists emerging today no longer need to collaborate directly. However, they choose to influence and usurp each other's role in order to produce distilled images of possible worlds.

Interestingly enough, in our globalized condition, these couples seem to emerge around very specific locales. We will thus look at the collaborative production of three groups, in three European cities: Ghent (Jan de Vylder vs Philip Dujardin), Brussels (Kersten Geers and David Van Severen vs Baas Princen, and Zurich (Roger Boltshauser vs Philipp Schaerer). Through the study and contextualization of these collaborations, we will attempt to shed some light on the gradual hybridization of architecture and image-making, as it precipitates the emergence of a digital/physical phenomenology and a simultaneous exacerbation and collapse of the notion of context in our digital society.

PS33 After Analog: New Perspectives on Photography and Architecture
Hugh Campbell, University College Dublin, Ireland and Mary N. Woods, Cornell University, *Session Co-Chairs*

Building, Image, Cast: Indexicality in the Digital Era

Peter Sealy
Harvard University, Cambridge, MA, USA

While the present hegemony of digital image making seems to have excised the indexicality upon which photography's supposed objectivity was constructed, recent years have seen the emergence of other digital technologies that remain persistently indexical. Three-dimensional printers are now a ubiquitous presence in architectural offices and school workshops. In factories and on construction sites, digital fabrication machines promise a direct translation between conception, production and representation. The age-old fantasy of an unmediated transmission from idea to material form to image seems ever more real amidst the unstuck referents of our increasingly virtual world.

These new digital technologies – each claiming its own form of indexicality – align with the long history of casting as a technique for architectural production and representation. The historical affinities between casting and photography are many: both media result from indexical, two-stage processes, seemingly made without subjective interference. Both used chemical techniques to produce 'natural' results, inexorably tinged with a certain macabre sense of the uncanny. Casting and photography were often partnered in the design and diffusion of ornamental motifs – a relationship that has been re-established in contemporary practice. Such examples bring forth one of the paradoxes of casts and close-up photographs: the indexicality of the part is asserted while the architectural object as a whole is dissolved into a cloud of representational fragments.

Drawing from contemporary as well as historical examples, this presentation will question why indexical media such as photographs and casts are so productive for the evolving, multi-stage processes of design and construction. Following the analogous history of casting from the nineteenth-century to its present digital manifestations, it will situate photography's ever-changing position within architectural practice and representation as evidence of a continued desire for indexical yet freely circulating fragments of truth.

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'Time to End Blight': Photographing Decline in Detroit

Wes Aelbrecht
University College London, London, UK

On 27 May 2014, the Detroit Blight Removal Task Force, chaired by Detroit's new missionary Dan Gilbert, released the Obama-mandated report on Detroit's dire real estate conditions. The compilation of photographs and maps that identify 84, 641 blighted structures and vacant lots, will guide the city's fulfilment of the campaign promise of Mayor Mike Dugan to get rid of Detroit's blight, deemed a nuisance to social and economic progress. Using an app called Blexting (a portmanteau of blight and texting) resident surveyors photographed all structures in the city, resulting in architectural mugshots and accompanying reports. This interactive, and participative tool constructs on the one hand an updated image of the "real" condition of Detroit's blighted buildings versus the ruin porn image; and renews on the other hand earlier attempts to collect photographs in the battle against blight.

Using the report and Blexting visualization method as starting points, this presentation intends to rethink current and previous debates around photography and architecture. It will do so by discussing how and why the Detroit Citizens' Housing and Planning Council during urban renewal (1940s-1960s) collected and disseminated photographs of blight. I will demonstrate that the photographs stored today in the archives of the Citizens' Council partook in the construction of a visuality that gently governed the citizens towards seeing the city in need of rebuilding, and hence, to the acceptance of new forms of architecture and living. Using discourse analysis, connections can be exposed between the construction of knowledge, power, and the city. So while the gap between promise, in terms of reality and execution, was filled with representations of the city and its citizens during urban renewal, we are left uncertain in front of the new report anno 2014: the digitalization seems to have left us with a Barthesian 'message without a code'.

PS33 After Analog: New Perspectives on Photography and Architecture
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Beyond the Invisible Rainbow: Scientific Visions of Gyorgy Kepes

Filip Tejchman
University of Wisconsin-Milwaukee, Milwaukee, WI, USA

In 1967, MIT invited the Chicago-based Artist/Educator, Gyorgy Kepes, to found a course of study devoted to examining the potentials of new visualization technology. Infrared cameras, Electron-Microscopes and Satellite imaging, radically transformed the image making landscape available to designers. Kepes's newly formed Center for Advanced Visual Studies (CAVS) was devoted to disseminating the visual lessons these discoveries yielded. The now-familiar series of books that Kepes published introduced a broader audience to novel compositional tropes - pattern, symmetry, etc. - that were transformed and reborn through the technological lens. Unfortunately, Kepes' re-visioning of foundational principles did not result in a novel representational apparatus with which to project this newly acquired vision into form.

Our contemporary fascination with thermodynamics and the becoming-energy of thermography and fluid-dynamic visualization, echo the compositional rubrics established by Kepes which serve as simultaneous precursors to new compositional modalities, as well a productive critique.

Thermography captures a reality in which the politics of energy are viewed as the sublimation of the human body within a temperature field of artificial and natural forces. The equivalence and interchangeability between the metabolisms of the body, Architecture and the city, enabled by Thermography, surpass the diagrammatic attempts of systems theorists to rationalize the mechanisms of ecology. It is in thermography's simultaneous material-abstraction that Architecture has found a new projective tool directly reciprocal to the design process. What kind of Architecture does this make? How does it problematize and extend the formal/compositional agendas that Kepes and the CAVS produced? This paper examines the nature of this productive disruption and how it changes the nature of abstraction from a rhetorical painterly device to one enabling the precise indexing of the invisible. It attempts to answer how Architects can leverage this new apparatus of Thermodynamic "vision" to author new compositional categories and material opportunities.

PS33 After Analog: New Perspectives on Photography and Architecture
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Aerial Viscosity: The Architecture of Digital Drone Photography

Jon Yoder
Kent State University, Kent, OH, USA

Digital drone photography already has an architectural history. Indeed, it almost seems to realize the longstanding anti-gravitational teleology of Modernism with its floating eye-in-the-sky projections and omniscient vantage points. Drones also seem synchronized with the cinematic sensibilities of Le Corbusier and Bernard Tschumi, and even the subversive potentials of Situationist dérives and parkour transgressions. So the fact that drone applications are poised to pervade all phases of design and production—from site reconnaissance to construction supervision—is thrilling. In fact, drones are already being used to photograph buildings, landscapes and cityscapes across the globe. Architectural photographers including Fernando and Sérgio Guerra, and the Canon-sponsored "Explorers of Light" group, are currently conducting pioneering digital experiments with unmanned flight systems. But the insidious implications of these intelligent machines are also obvious. As Paul Virilio and Manuel DeLanda have demonstrated, the histories of aerial photography are intimately bound up with developments in military technology. No images from above are innocent.

Still, drone photography also promises to transfer the digital 'fly-through' to the arena of physical space. In this reverse operation, the ostensibly liberating drone apparatus reveals a surprisingly viscous aerial environment. Far from eliminating geo-climatic considerations, digital drone systems bring the paradoxical weight of aerial maneuvers to the fore. The gravity of both physics and politics within specific environments becomes palpable. Based on original research with images in the Julius Shulman Archive at the Getty Research Institute and personal photography of the same iconic structures, this paper contrasts Shulman's accomplished analog perspectives and portraits with the author's own digital photos and videos produced with an AR.Drone 2 unmanned flight system. It extends Beatriz Colomina's seminal equation of architecture and mass media, and Mitchell Schwarzer's provocative elision of the boundaries between photographic and vehicular experience, into the viscous atmosphere of digital aerial photography.

PS34 Architectural History in the Anthropocene
Daniel A. Barber, University of Pennsylvania, *Chair*

The Problem of Thermal Comfort in Climatic Design

Jiat-Hwee Chang
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Buildings are responsible for a large percentage of the record levels of energy consumption and carbon emission in the Anthropocene epoch, and significant proportion of these are associated with mechanical cooling. In face of peak oil and climate change, many advocates are calling for a reduction in our reliance on mechanical cooling and for us to turn to non-air-conditioning technologies. For many architects, historians and theorists, not only do mechanical cooling (as provided by air-conditioning) and "natural" cooling (through sun-shading and ventilation) represent contrasting technologies and philosophies, the architectural forms associated with these technologies are also seen as diametrically opposed physical and cultural entities: productform versus placeform, active cooling in contrast to passive cooling, conservative mode against selective mode, etc.

This paper questions these oppositions. Examining the emerging discourse of tropical architecture in the British imperial contexts of the 1950s and 1960s, this paper argues that, like mechanically cooled architecture, tropical architecture was underpinned by a mechanistic and reductionist understanding of the complex relationships between human well-being, climate and society. Looking at the research and teaching by figures such as Otto Koenigsberger and George Atkinson at the Department of Tropical Architecture at the AA and the various Building Research Stations in the British Empire, this paper shows that thermal comfort, as established in early twentieth century by the air-conditioning researchers associated with ASHVE and industrial physiologists, was the "fundamental principle" upon which tropical architecture was constructed. Thermal comfort experiments, however, assumed human beings as passive biological receptacles of environmental stimuli and reinforced the old colonial perception that tropical climate was a source of thermal stress. Thus, tropical architecture ignored how comfort was not an environmental-biological attribute but an achievement inextricably linked to social practices and cultural perceptions. The subsequent failure of tropical architecture can be attributed to these oversights.

PS34 Architectural History in the Anthropocene
Daniel A. Barber, University of Pennsylvania, *Chair*

Commons, Cords, and Combustion

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This paper takes Thoreau's *Walden* (1846-54) and its' depictions of forestry and fuel as a springboard to explore how historically-grounded forms of speculative, spatial projection can speak to 'anthropocene' interests like energy impacts and the non-linear nature of cultural-ecological feedback.

As a canonic work of conservation and romantic aesthetics, *Walden's* dialogic prose has received abundant attention from environmental and 'common landscape' historians such as Leo Marx and J.B. Jackson. And yet, the full complexity of Thoreau's imagery has been lost in the bracketed focus on classical topoi and expressive intent. To correct this, one also needs to excavate *Walden's* embedded quantitative genres and their cultural import, attending to Thoreau's surveying samples and his scattered citations of farmers almanacs, merchant magazines, and annual railroad reports.

In an alternate reading of *Walden's* “House Warming,” this project situates such mensurations and proceeds to 'run their numbers,' visualizing the shifting footprints and intensive impacts of cordwood use in the 1840-50s (at peak New England deforestation of 10% land-use). Grounded in historic plats, census data, rail records (etc.), and archaeobotany seed surveys, these spatial energy 'pasts' (akin to scenario 'futures') visually link recorded habits and specific sites (Walden Pond) to aggregate ecological effects and agronomic trends. These visualizations also foreground Thoreau's fanciful metaphors – of medieval hearths and social heating – as organizational emblems, paralleling the railroads' reciprocal intensification of energy consumption and social condensation.

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Daniel A. Barber, University of Pennsylvania, *Chair*

London Particular: The City and the Visibility of its Objects

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By 1713, when Sir Christopher Wren took note of the deteriorated condition of the walls of Westminster Abbey, his contemporary John Evelyn had already (in his Fumifugium of 1661) described the buildings of London as “filled and infested” with coal smoke, a pervasive fog that was an “Enemy to their Lustre and Beauty.” Wren’s observation supplemented Evelyn’s aesthetic regard with an attention to the physical properties of the city’s stone surfaces. Wren suggested that earlier builders’ “unhappy Choice of Materials” was poorly suited for London, a city whose natural climate was rapidly being altered by the mechanical artifices of urban development.

This paper will examine the fuller awareness that subsequently developed around the turn of the twentieth century of the reciprocity between the environment and the materiality of the city of London. In decades characterized by architectural revivalism and punctuated by government inquiries and legislation, a new attention was brought to bear upon the material surfaces of the city. Architectural ornamentation, surface coatings, ventilating openings, artificial stones—all these were subjects of experimentation directly related to the circumstance of a city perpetually enveloped in the noxious clouds of ‘London particular’, the dense particulate fog produced by the residential and industrial chimneys of the metropolis.

The paper will analyze a range of regulatory programs—both preventative, such as smoke abatement requirements, and prospective, such as solicitations for new durable materials—but its central focus will be surveys undertaken by the London County Council to assess corrosive damage being caused to historical buildings by the toxic environment. In their breadth, such programs transferred attention from individual buildings to the city itself as a material (and historical) entity. In consequence, they offer an opportunity to discern in new ways the reciprocity between environment and the cultural and social embodiments of architecture.

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Daniel A. Barber, University of Pennsylvania, *Chair*

Environmental Thought in Architectural Modernism, ca. 1900

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By studying human interaction with the environment as a socio-natural process of construction, architectural history seems well placed to examine the Anthropocene thesis. Yet, at the same time, environmental concerns have thus far only played a marginal role in its disciplinary perspectives. One reason for this contradiction, I argue, lies in the history of architectural modernism itself, in which environmental thought and science are at once fundamental and quasi invisible. In order to reveal the conditions under which environmental categories entered the domain of architecture, this paper focuses on one crucial historical episode: late-nineteenth and early twentieth-century imperial Germany. The development of modern architecture and urban planning in this context was not only spurred by rapid urbanization, industrialization, and colonialism but also shaped by uniquely German concepts about the relationship between people and their environment—in particular *Heimat* ("homeland") and *Lebensraum* ("habitat"). With the popularization of the environmental sciences in the wake of Darwin and the concomitant rise of geographical and climatological determinism, these notions became powerful planning tools for civil society organizations, state officials, architects, and planners in both metropole and colony. This paper examines the design of new colonial settlements such as Windhoek in Namibia (then Deutsch-Südwestafrika) and its repercussions for architectural modernism. Such little-known building projects attempted to create new yet "authentically German" space in the arid deserts and highlands of southwest Africa, and architecture was seen as a crucial vehicle to root people into foreign climates. Building on two threads of historical scholarship—about the colonial roots of twentieth-century architecture and the role of science in European imperialism—this paper thus contributes to an alternative genealogy of architecture's environmentalism, one that is explicitly geopolitical rather than moral.

PS34 Architectural History in the Anthropocene
Daniel A. Barber, University of Pennsylvania, *Chair*

Architectural History in the Anthropocene: Toward Methodology

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For the past few years, the Humanities have accepted the numbing challenge posed by the Anthropocene.

Different disciplines have charted discrepant paths toward a sustainable future, producing both a rich and varied literature on the subject and a new hermeneutics with which to probe texts and works of art. Anthropogenic concerns have proved to be compatible with critical apparatuses and methodologies, such as feminism, postcolonial and subaltern studies, Marxism, and social history. In architecture too, the engagement with the Anthropocene has yielded strong results, as urbanists and architects have completed a range of sustainable buildings, public parks, and eco-cities that are energy-efficient, address urban ecosystems, and are increasingly carbon- neutral.

At the same time, climate change has saddled the discipline with a host of new problems. Since the Industrial Revolution, architecture as practiced in industrialized countries has been dependent on non-renewable sources of energy. It is over-determined by its articulation not only with economic networks and political power which have received ample attention in historiography, but also with oil, privatization of natural resources, environmental degradation. This paper asks whether the layered entanglements of the Anthropocene can suggest new methodological approaches for our discipline. If we want to grasp the imbrication of architecture, hydrocarbons, and climate change, we need to shift attention from the architectural object to the pathways required to produce buildings and cities; to use multiple spatial and temporal scales; and to take into account the new stakeholders – activists, environmentalists, and non-human actors – who are equally involved in the new geological era. We also need to navigate a course between declensionist narratives of apocalyptic doom and “green” fundamentalism that passes over in silence the violent inequalities that derive from the uneven distribution of the effects of climate change across the globe

PS35 Architecture in a New Light
Sandy Isenstadt, University of Delaware and Margaret Maile Petty, Victoria University of Wellington, New Zealand, *Session Co-Chairs*

The Reinvention of Paris, the City of Light, at the 1937 Paris Exposition

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Faced with inconclusive results of the preparatory architectural competitions, --the last Beaux-Arts competitions of the century--the 1937 Exhibition's leadership drew on a well established tradition of French Expositions Universelles, started in the 18th century: they opted for Electric Light appealing both to the Enlightenment's universalism and technological modernity. The Exposition represented the crowning moment of more than half a century of experimentation with electric light in architecture. Electric light was to provide the power of innovation and fascination that connected the Exhibition both to its tradition and to Modernity. As the Expo's Commissioner wrote in his Rapport: "We chose as a goal the apotheosis of that supernatural force (sic!)--Electricity." Blurring under its glare the confines between modern art and modern technology, the fine arts and the applied arts, electric light appeared to solve a century old French controversy about Modernity: it accomplished, in a stroke, the union of the arts the Modernists advocated since the "failed" 1925 Exposition of Decorative Arts. Inaugurated under the Front Populaire, the Expo had also a political dimension expressed with electric light phantasmagoria. The nightly enchantments orchestrated live by Arthur Honegger **"**were in themselves the flamboyant and lively expression of what may be science's greatest legacy: the victory over darkness." With fascist regimes surrounding France, at the eve of a predictable war, the reference to the "victory over darkness" had multiple meaninsg. Such victory was underscored by the emblematic link between the Pavilion of Peace and the Pavilion of Light (boasting Dufy's monumental mural, "Fée Electricité"), connected by the Exhibition's main axis, the "Avenue of Peace." The new architecture, sculpted in light, opened an endless field of possibilities for aesthetic, ideological, technical, and commercial uses. The paper argues that Paris, the City of Light, was literally reinvented at the Expo.

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Lighting the Victorian Art School

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The paint-splattered studios of Victorian art schools are today recognised as a significant part of the cultural heritage of post-industrial Britain, having educated artists as varied as Valette, L.S. Lowry, Mackintosh, and Henry Moore, who all drew inspiration from the clouds of perpetual fog hanging over their respective cities.

But the schools also reveal the importance of environmental considerations in the construction and use of a building type dependent on plentiful light to function properly at the end of the 'dark satanic century'. In the major industrial cities of Britain daylight was in short supply. One study identified the annual soot fall in the centre of Glasgow as 820 tons per square mile, in comparison to 426 tons in London.

Lighting at night was as important in art schools as daylighting. Technology extended education into the evening, allowing apprentices and other skilled tradesmen to enroll for the first time. As a result, art schools were one of the first building types to be lit by electricity, as soot associated with burning large volumes of gas had a detrimental impact on the internal atmosphere. In particular, Mackintosh's Glasgow School of Art was designed and fitted with a combination of 272 incandescent and arc lamps when it opened in 1899.

However the consideration of light for art was more than purely practical. The new schools demonstrated the possibility of the diffusion of culture in a rapidly transforming society. Visual impression and the exploitation of the symbolic potential of light were design goals equal to, if not more important, than the quantitative criteria of science. This paper will consider examples in Manchester, Birmingham and Glasgow, and reveal how these complex architectural ensembles were designed as 'beacons of enlightenment', building a vision of a brighter, more designed future.

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Lighting the American Farm in the Age of Rural Electrification

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Between 1935 and 1945, the percentage of farms with electricity in the United States jumped from 10.9% to 45.7%. Thanks largely to the New Deal's Rural Electrification Administration (REA), electricity transformed everyday patterns of work and leisure on the American farm, powering innumerable conveniences such as water heaters, electric milkers, and radios. But perhaps no change was more immediately palpable than the clean, steady glow of electrical light. Many times brighter than the dirty kerosene lamps they replaced, electric lights became a sought-after commodity even among farm families unwilling to invest in other electrified conveniences.

In its efforts to promote the use of electricity in all aspects of farm life, REA recognized electric lighting as the first step towards convincing farm families to adopt an "all-electric" lifestyle, even adopting the motto, "If you put a light on every farm, you put a light in every heart." This tagline conveyed REA's understanding that electric light harbored the potential not only to remake the farm's nocturnal appearance, but to catalyze the spatial and material modernization of the farm more broadly. Partnering with corporations such as General Electric and Westinghouse, REA used diverse media, including lighting and wiring guides, films, and model farms, to illustrate best practices in farm illumination. These materials depicted idealized farm yards reorganized and farmhouses renovated in response to the arrival of electric light. Promising more productive hours on the farm and a new standard of living in the farmhouse, electric light also possessed significant implications for labor and gender on the farm. This paper situates theoretical approaches to lighting the farm and architectural responses to the illuminated farmstead within well-established rural reform efforts which sought to both rationalize the layout of the farm and endow the farmhouse with a suburban, middle-class aesthetic.

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Fiat Lux? Contested Light in Chicago Streets, 1893-1930

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At the turn of the twentieth century, electric light symbolized progress and modernity. Small towns and outlying areas of smaller cities that lacked artificial light at night were characterized as behind the times. This was true not only inside buildings, but in the public space of the street. Late nineteenth and early twentieth century buildings were conspicuously adorned with exuberant electric light fixtures, and the city of Chicago spent considerable resources installing electric streetlights, including ornamental “electroliers” on Michigan Avenue, as part of the 1909 Burnham Plan. Not all light in the streets was created equal, however. At the same time these civic improvements were installed, the new problem of headlight glare from automobiles appeared. The earliest automobile headlights had been feeble, fueled by kerosene and acetylene gas. For contemporary observers, though, the electric headlight represented a qualitative change. The glare from headlights was seen as a nuisance and an actual menace to safety on the streets.

This paper analyzes the controversies in early twentieth-century Chicago over socially-approved street lights and artistically-designed light fixtures, and their negative counterpart, the potentially transgressive or dangerous light of automobile headlights. Both defined a certain kind of public space, yet depending on the point of view of the observer, each category of light could represent a tension between safety and danger, or order and chaos. The lengthy dispute about headlight glare eventually resulted in legislation to address the problem. In a larger context, this controversy suggests the fault lines of class and power in Chicago during these decades: the debates over electric light in the streets reveal the boundaries of individual agency, social control, and the distribution of resources involved in creating the modern built environment in the city of Chicago.

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Sociocultural Modernity amid Electrification in Savannah, Georgia

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A coastal city in the American South, Savannah, Georgia, always had to deal with the intense heat and humidity that accompanies the picturesque scenery of the area. When electricity was integrated into the city, along the existing business district of Broughton Street in particular, it helped combat the climate through its incorporation into Savannah's architectural and urban landscape. Here, electricity provided the enhancement of social traditions as well as the creation of new pastimes that became important when seeking relief from the humid climate of the region. Closely following the national fascination of electricity, Savannahians enthusiastically embraced electricity from a comparatively early stage in the development of the technology. Electrical lighting, motion pictures, and air-conditioning, separately and in combination, created a system of electrical comfort in response to the climate.

This paper reframes electrification and its impact on urban and social life in the context of Broughton Street in Savannah. Electrification both transformed this business district into a typical "modern" city complete with its own "Great White Way", yet also adapted the architectural and social fabric in a unique fashion pertaining to Savannah's climate. Utilizing original city documents, archival records and articles, the paper will track the fascination and popularity of electrification and highlight its importance regarding growth and social exchange. While this story is common in American cities, the case study of Savannah reveals both similarities and essential differences in how the deployment of electricity altered the social and urban fabric across America. Electrification was as important for a city of 30,000 as it was for metropolises like New York City. Examining the history of electrification in a relatively small city in the South that utilized the technology to contend with climatic issues provides a fresh perspective on a well-researched area of the built environment.

PS36 21st Century Critical Conservation: Re-Thinking the Status Quo
Susan Nigra Snyder, Harvard University and George E. Thomas, Harvard University, *Co-Chairs*

Commemoration at the Edge: From Preservation to Activism

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While historic preservation has been codified through legal mechanisms and organizations like UNESCO, there is movement towards more dynamic approaches to commemoration. The importance of this is especially revealed in dynamic contested environments, which bring to the forefront questions about the values and viability of preservation, and its role legitimizing particular understandings of the present.

In these places cityscapes and landscapes are involved in the ongoing constitution of contested histories, and support selected national myths and memories through heritage and commemorative practices. In some contested sites, such re-imaginings of place are executed with ferocity and thoroughness. While it may be gentler elsewhere, this dynamic is always at work and calls for a critical rethinking of approaches to commemoration. Preservation practices have been accused of freezing a particular interpretation: of creating the fixed and static in opposition to dynamic environments. Recent scholarship has been especially critical of commemoration, highlighting the necessity of rethinking how to make multiple histories clearly legible through spatial interventions.

This paper reviews the problematic aspects of preservation / commemoration through an examination of the divided cities of Beirut and Nicosia. It examines how, once the 'violent' stage of conflict has subsided, heritage battles continue conflict by other means. Considering the incredible power of monuments and the ferocity of actions to assert identity through heritage, I explore how they can more effectively tell complex stories rather than polarized versions, examining strategies that can be used to counter existing destructive practices. The paper considers an important emerging area that recognizes that memories are open, flexible, entangled and embedded and therefore might eschew standard heritage practices, instead supporting activism and organization. I propose alternative approaches that involve bottom-up participation in projects that are not directed towards a determined form or structure.

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Ecological Identity in the Search for Ecological Conservation

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Doreen Massey suggests that interpretations of the past are used to "legitimate particular understanding of the present." Similarly interpretations of "nature" and "ecology" are now used to legitimate particular control over the environment. The 20th century historic conservation practice of "freezing identity" runs the risk of being combined with 21st century conservation practices so that ideas of "natural conservation" become conflated with a type of "natural heritage." Prevailing practices of natural conservation following ecological models, presume a unified set of universal and stable rules that would in theory lead to a pristine, steady and balanced Gaia, where avoiding human interaction on the ground. However, post-normal sciences and studies in social-ecological systems have changed this ecological paradigm. Instead they show that resilient ecosystems are dynamic and human interaction can be successfully integrated, strengthening the life of the system. These systems are rooted in border interactions between individuals of the system that scale-up forming dynamic networks in nested levels, and which diversity and flexibility enable to deal with uncertainty and change.

Building on these approaches, this paper suggests that resilient natural conservation strategies should not rest in the search for pristine wilderness nor in normalized behaviors that ultimately result in legitimizing particular interests, but rather in understanding, designing and promoting the emergence of "ecological identities." By understanding the positional interactions among them it may be possible to define and arrive at resilient ecological systems. If the construction of social identity lies in the complex network of choices related to social relations, goods and places, this paper suggests that ecological identity lies in local and trans-local relations with the environment based in the positionality of individuals, using the bottom-up philosophical, biological, cognitive and anthropological approaches and participatory community-based conservation practices to arrive at a more appropriate standard of ecological conservation.

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Sprawl, Gentrification and Historic Preservation

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One of the reigning narratives in the urban literature today might be called the "central city triumphant." According to urbanists like Edward Glaeser, Alan Ehrenhalt and Vishaan Chakrabarti, Americans are tired of suburban sprawl and are flocking back to central cities. Some observers gleefully predict SUV's rusting outside abandoned mcmansions after their former inhabitants have flocked to trendy historic districts near the city center.

There are two main problems with this thesis. The first is that it isn't happening. The gain of population by a more affluent population at the core of cities is small compared to the continuing move of a less affluent population toward the edge. The second is that it assumes that the gentrification at the historic core is the opposite of sprawl at the edge. In fact they are in many ways flip sides of the same coin. If there weren't so many factories and low-wage earners moving from the center, there would not be room for the newcomers and the central city would be a much less welcoming place for them.

In fact, in many ways, urban centers and edges are becoming more similar. This is not surprising since the anti-sprawl activists who want to preserve open space at the edge are often the very same individuals who want to preserve the character of neighborhoods at the center from increased density and new development. The main mechanisms for this at the edge are anti-sprawl regulations and homeowner associations. For communities at the center they are downzoning and the historic district. In both cases the effect is the same- a limitation on individual freedom in return for some guarantee of stability and a buffer from change. Both also tend to limit supply and raise prices although this is often not a conscious motivation.

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Landmarking, Housing Production and Demographics in Manhattan

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In New York City, the rate of landmarking-particularly the creation of historic districts that contain hundreds or even thousands of properties-has risen over the last ten years. At the same time, the City has a chronic housing shortage. To address that shortage, the new mayoral administration recently released a plan calling for the creation of 180,000 new affordable and market-rate housing units within the next decade. Anecdotal evidence has suggested that the policies of landmarking and new housing creation might be in opposition to one another.

This paper analyzes landmark data, housing production, and demographic statistics in Manhattan to take a quantitative look at these issues and begin a more substantive conversation. The study began by determining the percentage of Manhattan properties that are under the jurisdiction of New York City's Landmarks Preservation Commission, either as individual landmarks or as part of historic districts. Next, the study calculated the production of housing-both affordable and market-rate-from 2003-2012, and compared the amount of housing produced on landmarked properties to the amount produced on non-landmarked properties. Finally, it analyzed demographic information (including racial diversity, household income and household size, among others) to determine trends related to the percentage of landmarked properties in each census tract.

These analyses concluded that the amount of housing-and particularly affordable housing-constructed is much lower on landmarked properties than non-landmarked properties. In addition, residents in landmarked areas in Manhattan have higher incomes, smaller household sizes and are less diverse than in areas where landmarking is less prevalent. Although there is clearly a correlation between landmarking, housing production and certain demographic trends, this study raises many questions about possible causal relationships between them and how these seemingly opposing policies might be resolved.

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Historic Cities in Continuous Evolution

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The unfolding of historic urban layers in the Spanish city of Cordoba, reveals the continuing mutability of pre-modern towns. The Roman, Arab and Christian civilizations in Cordoba did not intend to preserve the urban fabric; rather they reused and adapted it for pragmatic reasons, pursuing a process of small-scale but continuous modifications of the existing urban fabric. Because of the capital costs of demolition and replacement, pre-industrial methods of adaptation balanced the scale of change and the scale of what remained, thus the original character of the urban environment remained legible after these operations. New buildings were built, but were constrained by remnants that often provided design references. The benefit of this process was that it allowed for historic continuity while reflecting changing architectural styles.

In the early modern period, as a theme of national identity, the image of the old city was romanticized in narratives that recalled a glorious past time as compared with a decadent present. When modernity and industrialization brought physical change to the city nostalgic attachment to the fabric led to social opposition. The modern preservation movement arose as the antithesis of design and planning and stopped organic development. The consequence has been the banishment of modern buildings to the former industrial periphery in the process re-making the old city museum, valuable as a tourist engine but disconnected from the life of the modern city.

This study aims to recover the historically balanced relationship between conservation and development through the analysis of cases studies: Cordoba, Madrid and Casablanca. The fabric of these cities contains the stratigraphy of colliding civilizations that were organically integrated over time, rather than a single urban historic layer. This paper seeks to understand cities as living organisms and/or processes that evolve through time avoiding nostalgic and picturesque recreations of the built environment.

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