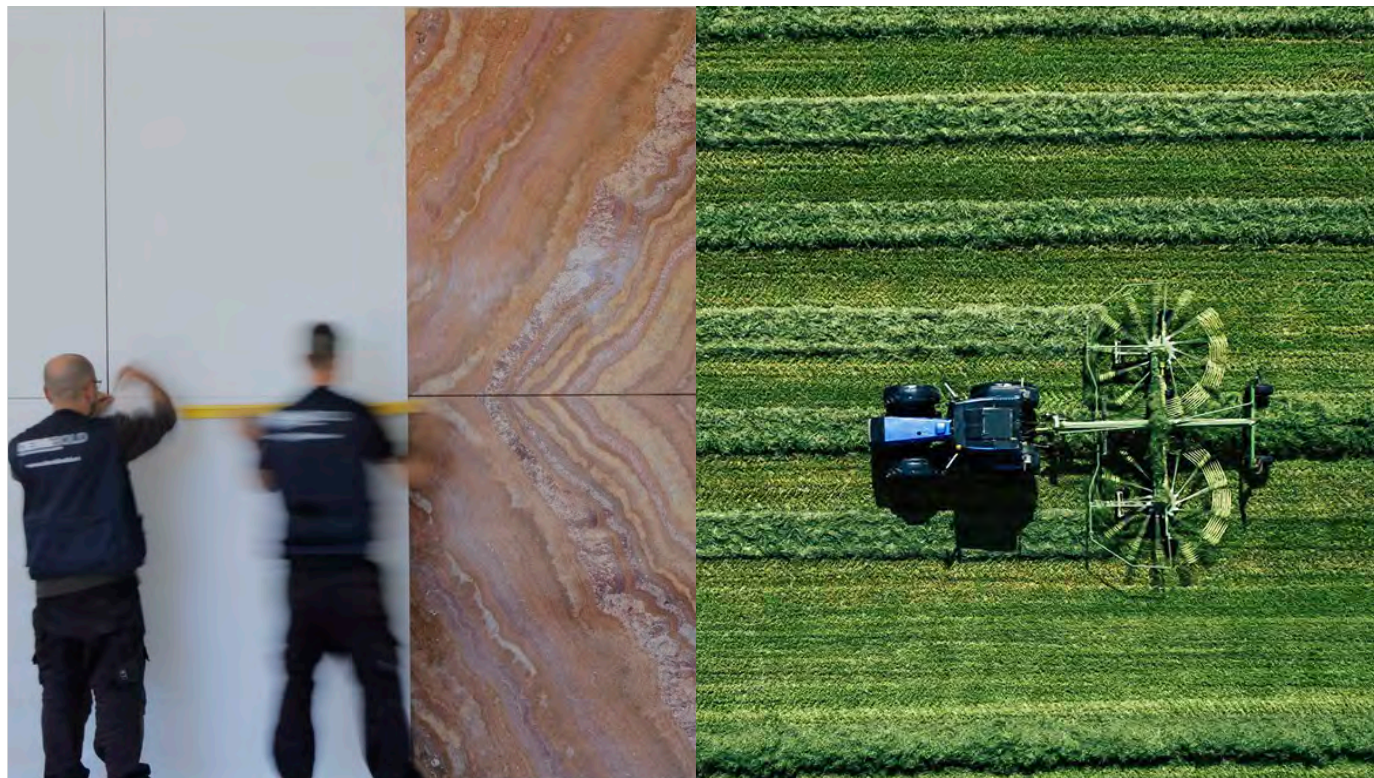


CULTIVATED

From farm to building

JEREMY FICCA, RA

“Unless architects begin to describe buildings as terrestrial events, processes, and artifacts, architects will – to professional and collective peril – continue to operate outside the key environmental and political dynamics of this century.”



Background

In their elevation to pseudo art objects, the stone walls of Mies' Barcelona Pavilion stand as one of modernism's most iconic examples of material fetish. The surfaces of golden onyx, roman travertine and green alpine are objectified and polished to reveal the inner beauty of sliced earth. Fundamentally detached from their complicated origin story, the pavilion's materials, like many of its modernist brethren, are severed from human and environmental entanglements. Mies' masterpiece is perhaps the ultimate referent of an architecture of hidden side effects. Or to borrow a term from Joseph Grima, an architecture of extreme externality. For the pavilion, the production of affect is utterly reliant upon, yet renders fully opaque, extraction, labor, and environmental depletion. The fact that the building had such a consequential impact upon the discipline yet was known only through images for the 50 years between its demolition and reconstruction seems perfectly fitting for this treatise on abstraction. While it is unproductive to critique past work through the lens of our current climate crisis, this icon of modernism is an enticingly clear illustration of how abstraction tends to distance and obscure the external consequences of design decisions.



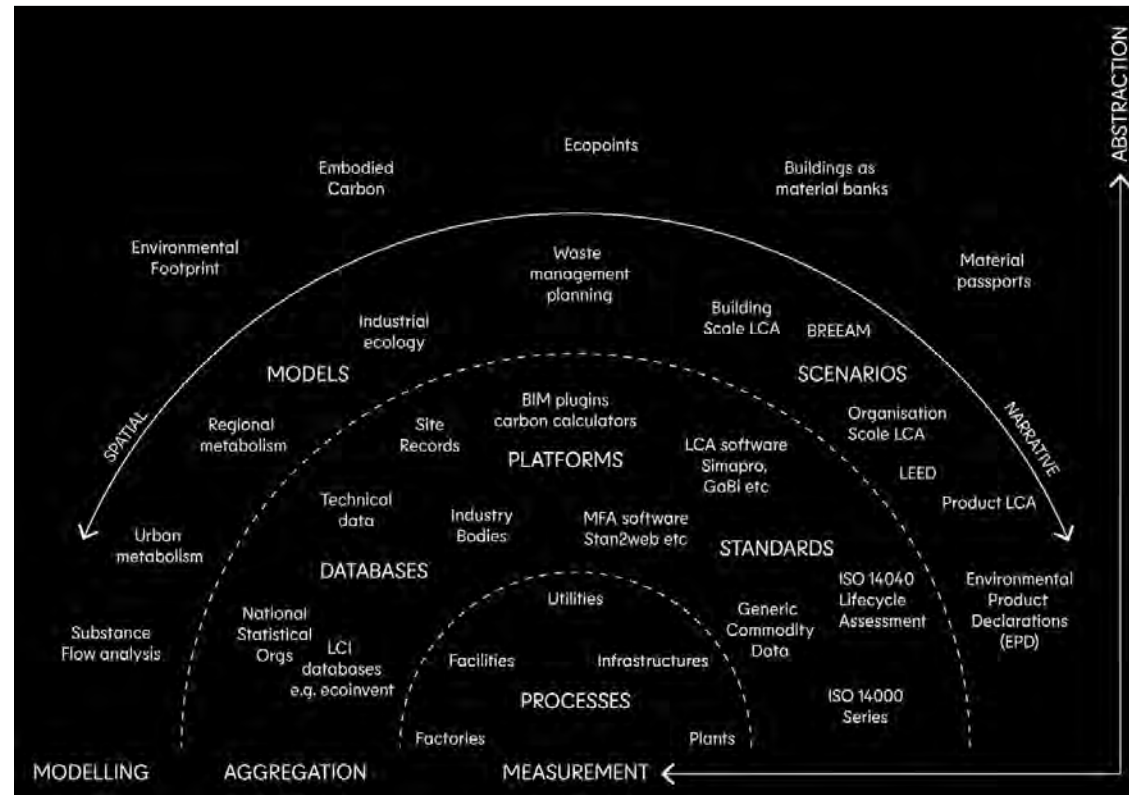
Architecture has long relied upon extraction and labor. Buildings are after all made of materials and components, sourced directly or indirectly from the earth. For the better part of the past century this has operated under a take-make-waste industrial model. For decades, globalism's long supply chains obscured the consequences of this model. Believing the ends justify the means is much easier when the means are invisible or largely unknown. As Michael Pollan's groundbreaking book *The Omnivore's Dilemma* directed attention to our most immediate form of consumption- eating, and in the process unraveled contemporary food supply chains, so must we confront questions related to how, what, and why we build. Our current ecological and political crises signal the limits and incompatibilities of a neoliberal consumption-based economy on a planet of finite resources.



Left 1: Mies Missing Materiality, Anna and Eugeni Bach
 Left 2: Industrial hemp harvesting
 Above 1: Timber Weaver's Studio with hempcrete infill, Practice Architecture
 Above 2: Henry Ford demonstrating hemp

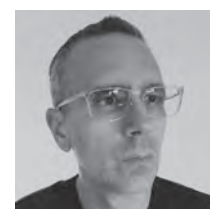
“What if architecture were understood first and foremost as a form of stewardship of the built and natural environments?”
– Joseph Grima, Non-Extractive Architecture

This studio presumes that a viable transition to a circular economy necessitates a recalibration of how one builds and ultimately, how design can better address a broader understanding of its processes and artifacts. The studio will explore the potential of regenerative material flows and harvested building materials in the context of Pennsylvania agriculture. It will focus specifically upon the ecologies of industrial hemp to consider the prospects of farming, processing, and building with hemp in the post-industrial landscape of southwestern Pennsylvania.



Context

Though only recently legalized for industrial cultivation in the United States, hemp has a long history in North America. With its origins of cultivation traced to central Asia, hemp has been used for a remarkably wide range of products from paper and rope to bio-resin automotive parts and hempcrete blocks. In addition to its numerous material properties, hemp is one of the fastest CO2 to biomass conversion tools available, far outperforming rates of carbon sequestration of forest land. Occasionally referred to as a mop crop, hemp is highly efficient at regenerating soil, requires limited maintenance and when compared to cotton, requires a fraction of the water. It is little wonder hemp was the world's most traded commodity until the 1830s.



body panel impact test, circa 1940

Above: Institution in the production and analysis of material flow from FLUXOPIA: ON LIFE IN THE METABOLIC CITY, Luke Johns



Care

Building upon Grima's repositioning of architecture as a form of stewardship, this studio asks students to develop an expanded set of cares, accounting for the side effects of one's decisions as much as the production of architectural affect.

Project

As a research studio, students will work collaboratively over the course of the semester. Initial research will be dedicated to developing a graphic manual of industrial hemp, from seedling to product and building. This will be followed by an evaluation of prospective sites for farming within the post industrial river landscapes of Pittsburgh and the surrounding communities. The culminating project, conducted with a partner, operates at two distinct scales, that of an urban farm and hemp processing / education facility and at the scale of the dwelling. Teams will develop proposals for an itinerant hemp processing and education facility to support transitory farming along with a prototypical, low density housing collective that uses hemp as its primary material system. Given the studio's focus upon material flows, projects will be developed as open systems and methods that seek to illustrate a range of architectural permutations.

Further Reading

- <https://v-a-c.org/en/non-extractive-architecture>
- <https://www.ellenmacarthurfoundation.org/>
- <https://strelkamag.com/en/article/fluxopia-on-life-in-the-metabolic-city>