6. *Material Inversions*
James Stirling, Leicester Engineering Building, 1959-63
“…confrontation between modernist abstraction and an incipient postmodern ‘reality’ embodied in a material presence."

“…the English context immediately after World War II is significant in understanding the critique of modernist abstraction embodied both materially and conceptually in the Leicester Engineering Building."
“…modern architecture…was essentially a continental phenomenon with varying political aims.”

Hitler and Mussolini
“In Germany in the 1920s, modernism was a left-oriented and Marxist-inspired movement...“
“...while in Italy after 1933, under Mussolini, modern architecture – in many cases even in the later 1920s – represented the aesthetics of the fascist regime, classical rhetoric, and monumentality.”
“In England, as in America, the context for architecture could essentially be called pragmatic. But unlike in the United States, which remained under the sway of a prewar Beaux-Arts influence, architectural culture in England was profoundly affected by the war.”

2 Reasons architectural culture in England was affected by the war:

- Refugees from Polish architectural schools
- The war disrupted the education of an entire generation of students.
“Second, the war clearly disrupted the education of an entire generation of students.”

S. Hambright

Drawing Canonical Ideas in Architecture

UofA
“Rowe began his studies at Liverpool in 1939, which had been a conservative school of architecture before the war, but had radically changed with the influx in 1938-39 of Polish refugees, many of whom had been active in the Modern Movement and introduced the school to Corbusian modernism and a form of Russian constructivism.”

S. Hambright

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“By the time (Stirling) returned to Liverpool in 1949, Rowe was his teacher, and Stirling completed his final thesis project in 1949 under Rowe and the profound influence of Le Corbusier.”
“The 1950’s signaled a change in the climate for modernity in England as architects, artists, and sculptors focused on alternatives to modernist abstraction. Collaborative efforts such as that of the Independent Group proclaimed an interest in everyday materials an an ‘as found’ aesthetic...”

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S. Hambright

Peter and Alison Smithson, This is Tomorrow, 1956
“Some of the participants – including the Smithsons – were equally involved in a post–CIAM group, Team Ten, which was dedicated to reviving the principles of modern architecture after the war. As a member of the Independent Group, Stirling was critical to Team Ten’s late modernist ideology.”
“If ‘This is Tomorrow’ drew attention to the cozy comforts of the postwar British consumer culture…the exhibition also led to several widely divergent offshoots….”
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“If ‘This is Tomorrow’ drew attention to the cozy comforts of the postwar British consumer culture…the exhibition also led to several widely divergent offshoots....”
“The impact of ‘This is Tomorrow’ created an impetus not only toward pop, but also toward a tough form of neorealism…it was named ‘New Brutalism” by the critic for the Architectural Review, Reyner Banham…a reaction to the image of a comfortable British lifestyle…oriented instead toward and idea figured in blunt materials and forms...”

S. Hambright
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“An important later influence can be gathered from his article ‘The Functional Tradition’ and Expression’ in *Perspecta 6*, 1960. Here Stirling discussed Luigi Moretti’s plaster casts, which created what Stirling called ‘solidified space.’”

S. Hambright

Drawing Canonical Ideas in Architecture
“This seemingly paradoxical inversion of the material qualities of solid and void became a theme that Stirling would develop more didactically in his early works…which prefigured his conceptualization of an inversion of materials at Leicester.”

S. Hambright

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“Stirling emphasized the materiality of the Maison Jaoul, which he contrasted to the ‘neutralized’ surfaces of Garches. Stirling noted that ‘it is disturbing to find little reference to the rational principles which are the basis of the modern movement...’”
“...and he saw in the Maison Jaoul not just a romantic or picturesque notion of postwar modern architecture but also, in its use of varied materials and a barrel vault, a profound critique of modern architecture.”

S. Hambright

Drawing Canonical Ideas in Architecture
“Leicester is one of the first manifold critiques of modernism and the first in a series of Stirling’s major university buildings in England, which include the Cambridge History Faculty Library, the Florey Building at Queens College, Oxford, and the Saint Andrew’s Dormitory project in Scotland.”

S. Hambright

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“This critique is manifested in three different ways: first, in the use of glass; second, in the use of modular ceramic units (brick and tile); and third, in the compositional organization of the building’s masses.”
“In modern architecture, glass was conceived and used as a literal void as well as a phenomenal transparent material, as discussed by Colin Rowe and Robert Slutzky in their seminal article ‘Transparency: Literal and Phenomenal’...”

S. Hambright

Drawing Canonical Ideas in Architecture

UofA
“Leicester marks the movement of glass from void to solid, in other words, a reversal of the conception of glass’s materiality, from literal void to conceptual solid.”
"The often published early axonometric drawing by Stirling is important in understanding the conceptual development of the material inversions."

S. Hambright

Drawing Canonical Ideas in Architecture

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“Leicester marks the movement of glass from void to solid, in other words, a reversal of the conception of glass’s materiality, from literal void to conceptual solid…the addition of volumetric diamond-shaped elements, which form both levels of the laboratory roof, and the horizontal glass projections replacing the banded glass striations of the office block.”
In the drawing, (the curtain wall) element is flush with the brick fascia above it...while in the executed tower, the entire glass curtain wall is set forward of the brick fascia.
“A third and minor change occurs in the glass under the parallel...lecture theater, where the glass element underneath the theater now has chamfered corners.”
“All of those taken together have the same effect: what was seen in modernist abstraction as transparent, planar, and void is now to be read as more opaque, volumetric, and solid.”

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“It is also necessary to look at some of the other aspects of the building…There is a play between the glass elements, which are not structural but appear volumetric and structural, and the brick units, which are laid vertically and made to resemble a surface veneer.”

S. Hambright

Drawing Canonical Ideas in Architecture
“This didactic use of materials clearly demonstrates the difference between glass as a plane, glass as part of a continuous surface, and glass as a volume that is clearly interrupted by and articulated around this concrete haunch.”

S. Hambright

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“Chamfering and twisting are certain of Stirling’s strategies that suggest the glass again has become conceptually more solid than the concrete structure of the building.”

S. Hambright

Why would Eisenman say Stirling’s strategies are textual rather than formal? What do you think?
“The transparent glass stair tower becomes a void that seems to hold up the large cantilevered mass of the auditorium, while the metal-panelled stair tower—the solid—is cut away, revealing the corkscrew of a concrete staircase.”

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“Such a play of materiality – making the glass staircase appear to support a massive volume while the concrete staircase is dematerialized into a spiraling vector – confounds the properties conventionally associated with each material.”

S. Hambright

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“...a modernist idea of a centrifugal composition, that is, one that moves its energy away from the center to the periphery. At Leicester, the organization of the volumes is centripetal... collapsing or being sucked down into the center of the volumetric massing. The diagonals of the ramps and beveled lecture hall volumes slant toward this center as they pivot about the central stair tower.”

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“...a dynamic rotation that reveals the influence of Melnikov’s Russakov Worker’s Club...while Melnikov’s project proposes a collapse toward the center, there is a lack of rotation in the composition of the projecting volume of the Russakov Club, while rotation is a primary characteristic of Leicester’s juxtaposed volumes. Melnikov’s volumes seem to float free, while Stirling’s volumes are pinned by the towers, which introduce a dynamic thrust downward.”

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“...a volumetric glass unit...It seems to slide or hover in an unstable position over the structure.”
“...brick-tiled units are structural at the base, yet are surmounted by a concrete, lintel-like element above a reveal, which suggests that the concrete element is floating over the brick.”

S. Hambright

Drawing Canonical Ideas in Architecture
“In this sense, the ‘reality’ of the void is articulated as a slot or cut-away – in other words, as real space – while the representation of void in glass – in other words, the ‘unreal’ voids – are treated volumetrically.”

S. Hambright

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“This constant displacement in meaning and function of materials provokes the need to read materials as conceptual rather than phenomenal physical integers, producing a building that is neither picturesque nor expressionist but rather defines a textual use of materials.”

S. Hambright
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