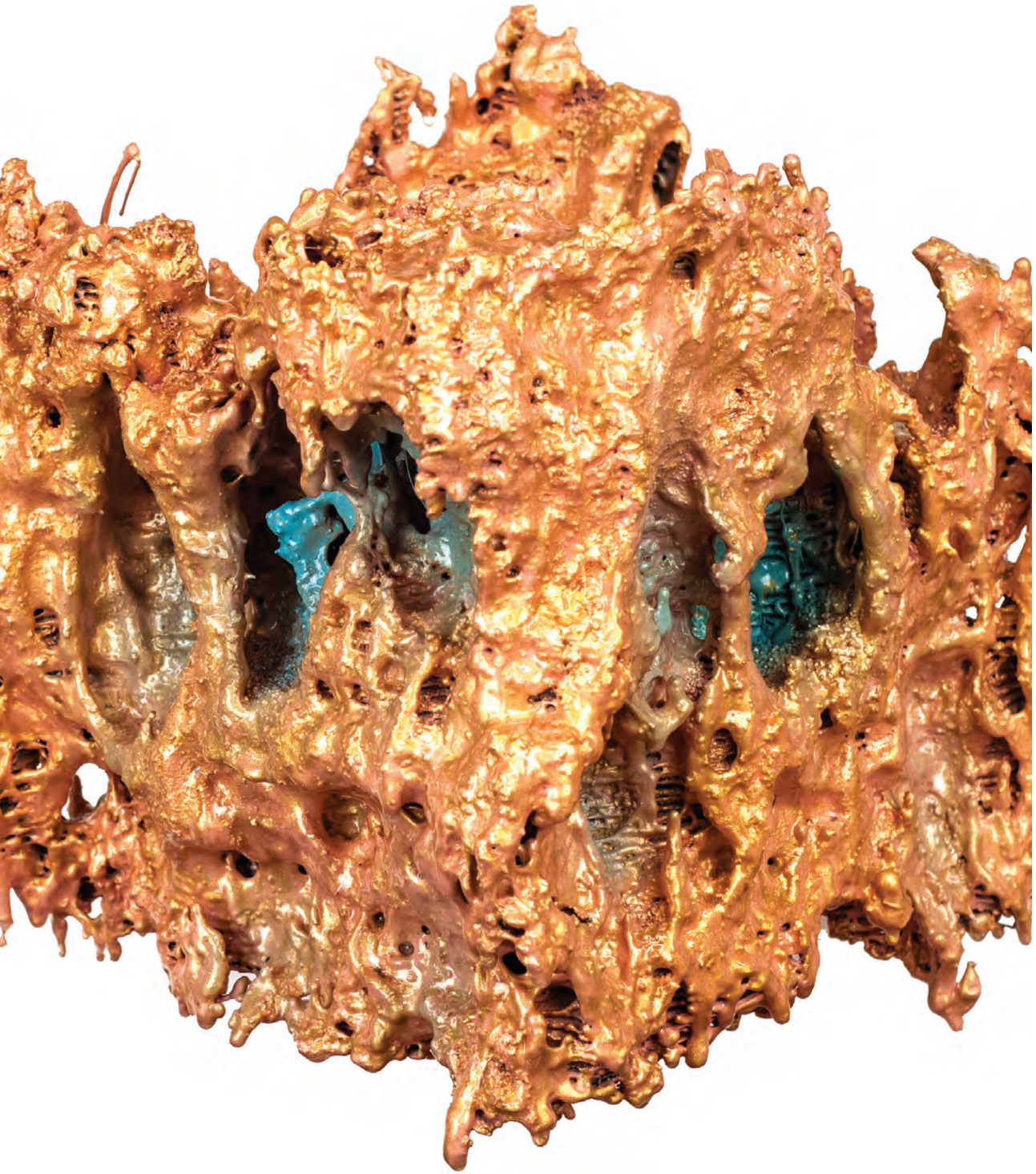

# Texture Extended: Contemporary Techniques of Architectural Surfacing

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## INTRODUCTION

Historically, architectural texture has been identified through properties of materials—the rustication of brick, the patina of copper, or the grain of wood. With the introduction of CNC fabrication into architecture, texture became artificial, a product of machining rather than a quality inherent to materials.[1] This turn to the synthetic has inspired architects to loosen their metaphysical appreciation of materials (the impulse that led Louis Kahn to ask a brick what it wanted to be, for example). Within today's expanded technological milieu designers are devising strange mixtures of digital modeling, material misuse, and inexact fabrication in a bid to radically expand architecture's visual and textural palette and challenge established narratives of the digital and the natural. This paper presents work from two contemporary practices leading these trends, organizing their work into three categories: *textural grafting, textural massing, and excessive finishing*.

## ORNAMENT IN DIGITAL FABRICATION

Greg Lynn first theorized synthetic surface articulation in architecture, connecting the artifacts of CNC machine tooling to disciplinary conceptions of ornament.[2] Historically, ornament had been defined in contradistinction to structure, the latter seen as essential to a building and the former as an excessive form of decoration that served a representational role. Lynn saw in CNC fabrication a collapsing of these two categories, as the process of making (or structuring) objects was the same process that left decorative marks. Thus, Lynn circumvented the representational role of ornament by identifying it as integral to the process of making. At the time of these claims, Lynn was part of an influential group of young architects that was attempting to surpass the fraught disciplinary positions of architectural postmodernists while simultaneously theorizing the digital technology entering the field. This group identified with French philosopher Gilles Deleuze, who saw the world in terms of flows and process rather than disjunction and representation.

Lynn's characterization of ornament as non-representational spurred further discourse. In their book, *The Function of Ornament*, Farshid Moussavi and Michael Kubo systematically develop a non-representational account of ornament by creating a taxonomy of building

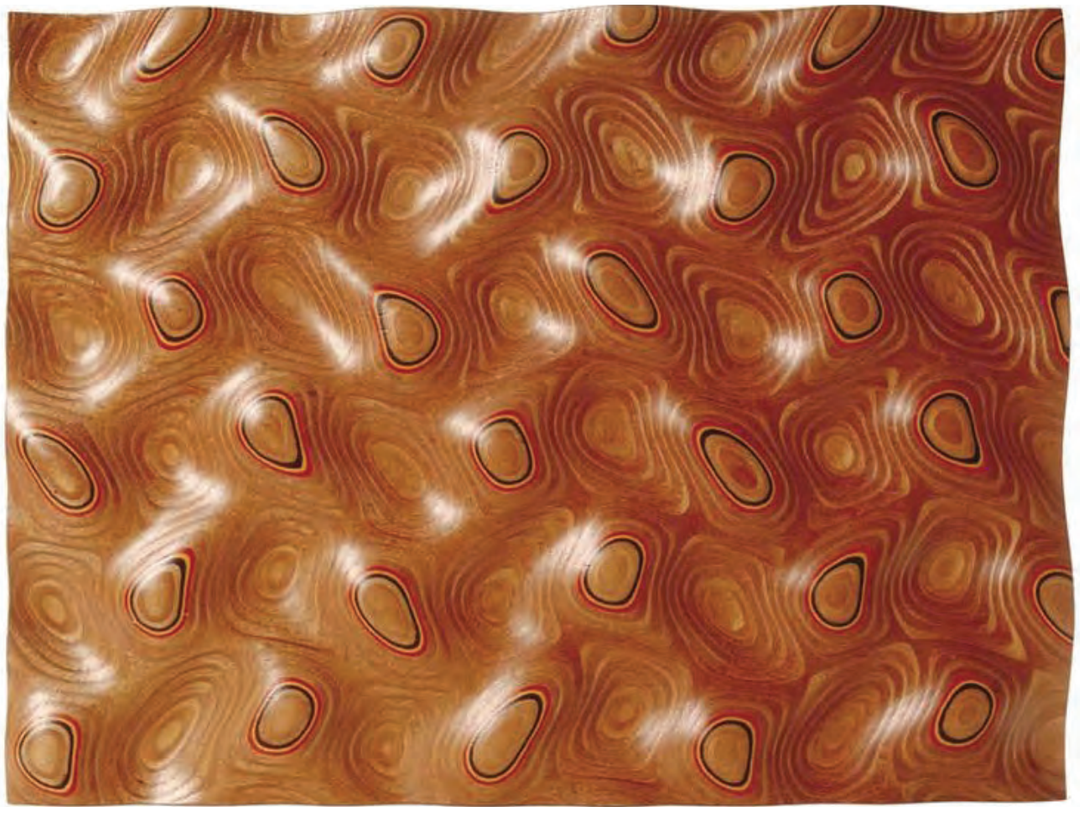

Figure 1: Bernard Cache/Objectile, wooden panel machined by CNC, 1998. - photo courtesy Objectile

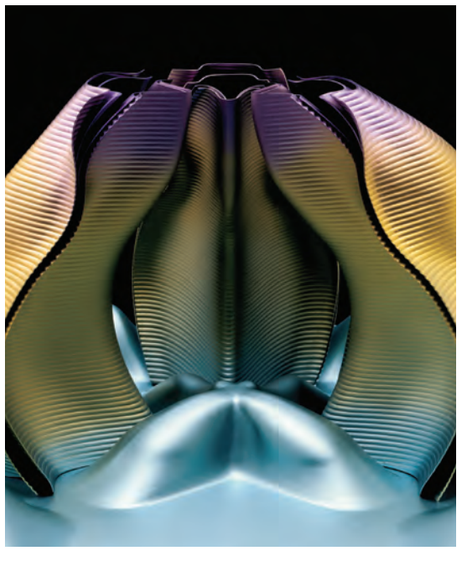

Figure 2: Greg Lynn, Alessi Tea and Coffee Towers, 2003. - photo by Carlo Lavatori, courtesy Greg Lynn

skins.[3] Surveying a wide range of buildings, Moussavi and Kubo apply a two-part categorical system that addresses "material," or the main component of a building that produces ornament, and "affect," which names the dominant quality of the resultant building. Others have refuted this non-representational account of ornament. In his article, "Contemporary Ornament: The Return of the Symbolic Repressed," Robert Levit questions the relevance of ornament as a concept if it is addressing qualities of a building that are devoid of representation, symbolism, or meaning.[4] Levit points out that ornament emerged as a concept in architecture explicitly to speak to the symbolic dimension of form and thus, "can never be reduced to a question of function" or an artifact of construction or craftsmanship.[5] According to his argument, whether architects acknowledge it or not, form is interpreted symbolically and ornament is a primary device of its expression.

In this paper, we will focus on two aspects of this discourse on architectural ornament: one, Lynn's contention that ornament is no longer applied but integral to the fabrication process; and two, Levit's assertion that ornament will always express something other than its material existence—a dimension that people understand symbolically.[6]

## TEXTURE VERSUS ORNAMENT

This debate on the nature and purpose of architectural ornament benefits from further parsing the terms in use. If, following Levit, we conclude that ornament cannot exist without symbolic meaning, then surface articulation that is non-representational can be defined simply as texture. Thus, in addition to the inherent qualities of materials—like wood grain or patina—texture can refer to an artifact of construction or fabrication that has lost its representational significance, either because it is ubiquitous or has become cliché. An example of the former would be undulating wall panels carved by CNC routers, such as those by Bernard Cache, which were novel in the 1990s but are now common features of our built environment and are no longer remarkable (fig. 1).[7] Similarly, when Lynn was expressing machined toolpaths on his Alessi Tea and Coffee Towers in the early 2000s it was an entirely new form of surface decoration, but has since become cliché (fig. 2). This new definition of texture—as the artifacts of fabrication that no longer hold representational significance— would encompass what Moussavi and Kubo are referring to as ornament and thus apply to the physical patterning of facades that are the mere result of construction processes.

With texture now referring to non-representational forms of surface articulation, ornament can be reserved for physical qualities that express meaning. Ornament is not a coincidence of construction or fabrication; it is an intentional act of design that seeks to communicate beyond affective experience. Ornament is authored by a designer and intended for an audience—what Antoine Picon calls the "subjectivity" of ornament.[8] In his book *Ornament: The Politics of Architecture and Subjectivity,* Picon identifies three ambitions to ornament: "pleasure and beauty, rank and prestige, communication and knowledge." In his opinion contemporary architecture has only engaged the first of these ambitions, largely through a focus on the pleasures of affective experience, demonstrated by Moussavi and Kubo's inclusion of "affect" as a category in their analysis. For clients funding projects with more elaborate budgets for materials and finishes, often high-end retail stores or museums,

Figure 3: SIFT Studio. Alt Brew panel, 2015.

*Figure 5: EADO & SIFT. The Marq wall stencil, 2015.*

*Figure 4: SIFT Studio. Alt Brew wall stencil, 2015.*

architects express "rank and prestige" if somewhat unintentionally. The last of the triad, however, that of "communication and knowledge," is problematically absent from the ambitions of contemporary architecture and is precisely where architecture can begin to regain its cultural and political agency through a more ambitious approach to ornament.

Recouping architecture's agency as such has been at the heart of our recent work. We see this as a practice of producing images that alter the political and cultural imaginary through strange materiality and texture. We approach surface articulation as a spectrum from texture to ornament, where texture can become ornamental by taking on additional meaning and ornament can turn textural when it loses its symbolic significance.[9] Our work increases the representational significance of texture by defamiliarizing everyday materials in an attempt to draw people into more subtle yet meaningful forms of engagement and challenge established categories of the digital and the natural.

Focusing on texture as a primary design concern has advantages. First, texture is accessible. From the whitest matte plastic to the craggiest stone, all materials have a set of physical properties that are familiar to a wide range of people. In contrast, the symbolism of ornament requires a cultural intelligence that is more rare. Second, texture is more haptic than visual. Although possessing tactile qualities, ornament is most often accessed visually at the scale of the building. Thus, the transmission of symbolic content via ornament requires sustained attention, a rare occurrence amongst the average building-goer. Conversely, texture is accessed informally, a casual brush of fingers across a surface, and therefore better suited to the general state of distraction in which architecture is most commonly perceived.[10] Our work is primarily haptic. People connect to it not through visual interpretation, but rather through a tactile familiarity of texture that at some point turns strange.[11] It is in the space of this suspended immediacy of the ordinary where we attempt to establish new meanings.

The following work showcases a series of approaches that seek to defamiliarize texture while speculating on larger disciplinary and cultural implications. Following Lynn, the broader concepts of the work are developed vis-à-vis the techniques and technologies of production.

## TEXTURAL GRAFTING

*Textural grafting* is a process of transferring the texture of one material onto another through both 2D and 3D processes. This technique abstracts and distorts inherent material qualities, pointing them towards alternative applications and producing a tension between one's recognition of material origins and alternative synthetic expressions.

For *Alt Brew*, an interior renovation for a craft brewery, high-resolution polygon modeling software, such

*Figure 6: EADO & SIFT. Texture Tectonics, 2015.*

*Figure 7: EADO & SIFT. Mirror Mirror, 2013.*

as Autodesk Mudbox, is used to sculpt digital models from detailed photographs of material textures, such as wood, rice, or grain. These textures are "painted" onto digital models in a thin layer of 3D relief then CNC routed onto large panels (fig. 3). Elsewhere in the brewery interior, another type of *textural grafting* abstracts detailed material photographs into vector linework that is cut into stencils and used to guide the application of accent paint onto flat walls (fig. 4). These various applications, along with a suspended wood ceiling that is charred, reddened, and highlighted gold, present various expressions of familiar materials, such as wood, yet "natural" wood is absent.

Another interior, a gastro-pub called *The Marq,* uses similar stenciling processes for both the application of paint and an adhesive-aggregate mixture (fig. 5). In both of these projects, natural materials are defamiliarized in a series of abstracted textures that retain some elements of familiarity. Materiality is established through a series of unnatural copies that selectively maintain qualities of an absent original. The play between ordinary/extraordinary, natural/synthetic, and digital/analog challenges common understandings of these categories, and couples haptic experience with broader cultural meanings.

## TEXTURAL MASSING

In *textural massing,* objects are derived from specific qualities that are drastically scaled to produce formal ambiguity. Texture is liberated from two-dimensional constraints, amplified and activated to take on issues of formal generation, aggregation, and scalar transformation.

For *Texture Tectonics,* a recent research project and exhibition, formal families are derived from specific material behaviors (such as wrinkly, bumpy, and gummy) and then scaled to produce formal ambiguity. This approach to form and massing is multi-scalar: what appears in one instance as bumps on a surface shows up in another as stand-alone bumps, blurring the distinction between an underlying form and a surface-based texture. Further, these new textural massings inform the way objects aggregate as adjacent textures nest together in a series of loose fits, suggesting an alternative tectonic order that is based on irregular forms and load paths rather than consistent surface-to-surface or point-to-point connections (fig. 6).

## EXCESSIVE FINISHING

*Excessive finishing* involves a mixture of subtractive and additive processes. CNC fabricated objects are intentionally deteriorated by heat or aerosols to produce corroded massings that retain traces of machined form. These objects are then finished with various plastic coatings, resins, powders, and paints to produce ill-formed objects with nuanced gradations of color, iridescence, and finish.

*Mirror Mirror,* a proposal for a pop-up eyewear store in New York, was conceived as a series of detailed, colorful, rock-like objects suspended in a mirrored container. Baroque-inspired carnival masks are grafted onto the rocks and display individual eyewear frames. The prototype is constructed from a combination of polystyrene forms carved on a 5-axis CNC router and 3d-printed display masks. All traces of the machining are erased through aerosol-induced deterioration and multiple coatings of plastic, resin, and paint. These techniques produce a continuous surface that has both smooth and rough patches with metallic color gradients that move from silver and gold to copper and orange. The finished textures are intentionally ambiguous: they produce associations with geologic forms but are clearly not natural formations (fig. 7).

Another project, *Artifacts,* employs similar methods of making yet pushes the deterioration further. Here layers of polyester felt are excessively melted to produce an eroded mass that loosely resembles its initial cubic shape. Finishing techniques similar to those used in *Mirror Mirror* are applied: plastic coatings, paint, glazes, and resin (fig. 8). In both *Artifacts* and *Mirror Mirror,* the excessive layering of finishes produces objects full of qualities, on par with the most exotic geological specimens, but entirely artificially produced.

At an architectural scale, similar methods are deployed for *The Marq.* Here, numerous techniques are developed to abstract and confuse the image of traditional wood. One such technique extends from *Artifacts* and *Mirror Mirror,* where the bottom edge of the wainscoting is carved and burned, then coated in metallic glaze and resin—a process of initial deterioration and alteration followed by the build-up of new qualities (fig. 9).

These three projects establish a range of qualities that confuse distinctions between natural and artificial materials. This happens in two opposing directions: one, the agglomeration of synthetic materials—foam, plastic, paint, resin—to produce a natural looking artifact and two, the alteration of natural materials, such as wood, with layers of synthetic finishes, such as metallic flecks, paint, and resin, to distort the reading of inherent material qualities.

## CONCLUSION

The work shown here demonstrates an expanded approach to architectural texture where the blurring of natural and artificial qualities combines with both digital and analog processes to produce artifacts of ambiguous materiality and origin. Working simultaneously with and against ordinary materials creates a tension between the everyday and the unknown, requiring prolonged attention in order to fully comprehend a thing's physicality. This suspended immediacy is where architecture can produce new meanings (and layer multiple meanings) and derive cultural agency through engaging and creating its audience while challenging established cultural and technological norms.

## ENDNOTES

1. It could be argued that this shift to artificial texture arises with the advent of manufactured materials, but here we are primarily interested in a more radical form of artificiality that cleaves a space between a material and its perceived texture. While plywood is a manufactured building material, it still primarily exhibits the textural qualities of wood. A similar assessment could be made of concrete masonry units (CMUs), medium density fiberboard (MDF) sheets, or other similarly manufactured materials.

2. See Neil Leach's conversation with Greg Lynn, "The Structure of Ornament," in *Digital Tectonics,* eds.

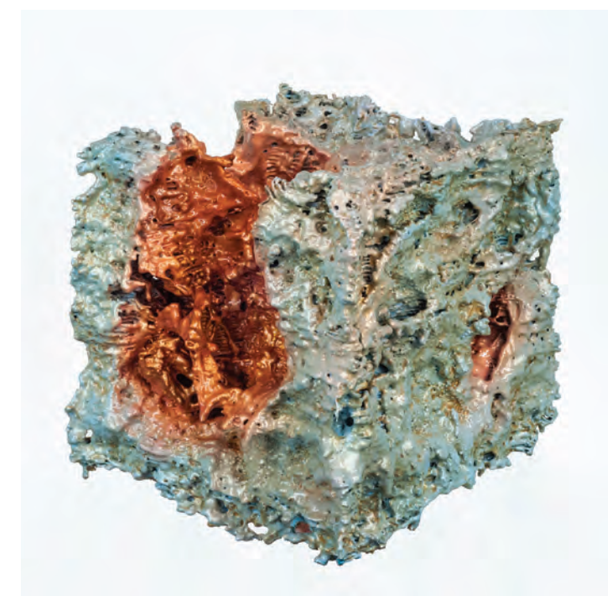

*Figure 8: SIFT Studio. Artifacts, 2013.*

*Figure 9: EADO & SIFT. The Marq, 2015.*

Neil Leach, David Turnbull, and Chris Williams (Chichester, UK: Wiley-Academy, 2004), 63–68.

3. Farshid Moussavi and Michael Kubo, eds., *The Function of Ornament* (Barcelona, Spain: Actar, 2006).

4. Robert Levit, "Contemporary Ornament: Return of the Symbolic Repressed," *Harvard Design Magazine,* Spring/Summer 2008, no. 28.

5. Levit, "Contemporary Ornament," 3.

6. These two facts echo the position of Antoine Picon in his book *Ornament: The Politics of Architecture and Subjectivity* (Chichester, UK: John Wiley & Sons, 2013).

7. Lynn recently referenced Cache's work in the call for his guest-edited issue of *Log*: "...derivatives of Cache's panels can be seen inside museum galleries, on hotel facades, and in steakhouse interiors and elevator lobbies." Accessed October 28, 2015, http://www.anycorp.com/log/submissions.

8. Picon, *Ornament.*

9. The latter condition speaks to architecture's problematic relationship with the market. In the past two decades, architectural research has entered into an arms race with the commercial sector where architects attempt to produce novelty at a rate that outpaces their work's migration into the built environment. If ornament is to "speak," then it must stand out from the background of commercial building products, which is itself quite diverse, colorful, and patterned. This produces a situation where the only end game is more technological virtuosity: more intricate patterns, more sinuous curves, fewer seams, and so on. Ultimately, virtuosic work creates audience—and thus gains agency—through the shocking and spectacular image of the new.

10. See Clement Greenberg, "Avant-garde and Kitsch," in *Art and Culture: Critical Essays* (Boston: Beacon Press, 1961), 3–21.

11. This notion of defamiliarization is similar to that described by Viktor Shklovsky in his essay "Art as Technique," in *Russian Formalist Criticism: Four Essays* (Lincoln: University of Nebraska Press, 1965), 3–24.