

## Leftovers: Residual and Risk in “Our Digital Present”

JASMINE BENYAMIN  
Texas A&M University

“What comes out is not always the same as what goes in. Architecture has nevertheless been thought of as an attempt at maximum preservation in which both meaning and likeness are transported from idea through drawing to building with minimum loss. This is the doctrine of essentialism.” Robin Evans, “Translations From Drawing to Building”<sup>1</sup>

### RESIDUAL, OR ARCHIVE

All beginnings are at once fixed and random. One way to understand the word “residual” is to examine its proximity to other terms. In relation to architecture and its production, the residual is nowhere and everywhere. Architecture is always archival, and the archive is everywhere architectural. Both drawings and their later digital descendents (the .dwg file) bear witness to, and are residuals of, a larger history of the design process. Architecture, like the archive, hoards history and is simultaneously a ruin: The archive is never complete and yet it is always striving for completion.

As I have argued elsewhere, while architectural practice can be argued as intrinsically archival, this archival impulse does not seem to extend to its use of tools.<sup>2</sup> In fact, the discipline’s positivist tendency is to supplant older tools with newer ones. Today, software releases are continually discarded and replaced by newer (thus ‘better’) replacements. Analog tools, too, have been usurped by digital methods, whereas contemporary art practices have maintained a heterogeneity, and the analog coexists with the digital both as procedure and subject matter.<sup>3</sup>

All ends are imposed and bracketed. There is no beginning or end in the space of architecture, and in

this age where grand narratives have been undermined in the face of global “plurality,” fixing limits on any one mode of cultural production seems arbitrary. Architecture, like the archive, is always both attached to and detached from context, from the dialectics of making and meaning.

Models and drawings are archival modes of architectural production. They engage - both literally and figuratively - pieces of a whole. They tell part of the story and retain the partial residues of their own historical origins. Some strains of current practice downplay their debt to institutional memory, and yet, as architects, we bear the traces of our own institutional history as producers. Architecture is nothing without the larger discourse of and about making that envelops buildings. If we do not talk about architecture, then architecture ceases to exist. Vitruvius taught us that architecture is not about ideas or objects, but rather about both. Architectural residue - as concept and as matter - refers to both its material presence and absence. Absence and materiality imply beginnings and ends.

### RESIDUAL, OR TRANSLATION

The late historian Robin Evans specialized in translation. As a thinker devoted to the subject of architectural media, specifically drawing, he excelled at writing about translations and advocated in their proliferation in the discipline. For Evans, the act of translation is a necessary component of the analytical process in both design and criticism. This migration from ideas to objects, drawings to buildings and buildings to words is productive precisely for the gaps it creates, because it is in these resultant

"zones of instability," he argues, that the discipline is forced to reckon with the means and limits of its own making.<sup>4</sup> They are also viewed as emancipatory moments where reality could be trumped by the desire for an "enabling fiction."<sup>5</sup> Drawings, Evans insists, are not buildings; while they can refer to built artifacts, they must also retain some measure of autonomy over them.<sup>6</sup>

Walter Benjamin's views on literary translation decades earlier mirror Evans' assertions about drawings. Translations are about destruction but also survival. Translations are "forms" that require something to precede them. Their task (*Aufgabe*) is to uncover the "afterlife" embedded in earlier forms. In "good" translations, this afterlife as material trace persists in its new translated iteration. For Benjamin, translations allow the original to continually "renew" and "unfold." Residual as translation, then, defines a force propelled by intrinsic and dynamic "echoes."<sup>7</sup> This force is a messy one. It will always be at loose ends, uncover weakness and contingency. Intrinsic to Benjamin's notion of "task" is the loss of control. It follows, then, that the best translations reflect a determination to let go of the original, to strive for autonomy.

Translations from history and theory to practice also provoke questions about residuals: Which theoretical ideas or historical assertions are left over, or left behind? Which are modified then re-transmitted? In our current parametric age, these questions take on added urgency. If we are now in the midst of a digital "revolution,"<sup>8</sup> which histories or theories of architecture is this revolution coopting or disrupting?<sup>9</sup> Since design can no longer be identified as a distinct phase of the building process apart from fabrication, and 2D drawings can be seamlessly transformed into 3D (albeit virtual) models via the integration of complementary software, are there gaps left open to "instability," and if so, where can one locate them?

### RESIDUAL, OR ABSTRACTION

As Scott Marble has argued, "architects work with abstract processes of representation that lead to abstract processes of making."<sup>10</sup> Even in the pre-digital era, models and drawings operated within a language of abstraction. Architectural design intersected with technology at the moment of construction. Today, abstraction infiltrates both design and

production; as design becomes algorithmically linked to production, what were previously identified as distinct points of convergence between architecture and technology<sup>11</sup> are now fully embedded as a field of convergences between abstraction and actualization.

In theory, all digital models and drawings can be paperless, and as such, they manifest as second order abstractions. If they do produce material outcomes, these forms seem more invested in improving (read: streamlining and efficiency) the means of their own making than in some supposed "end" result. As such, more often than not, the products of digital practice are critiqued based on the intrinsic "performance" of their algorithmic underpinnings. This is not to say that digital models cannot proceed from abstract constructs to eventual built objects, but only that they need not. Further, the material outcomes of digital processes are not necessarily produced as a means to an end, but rather are free to exist as artifacts with their own rules and logic. While the terms "drawing" and "model" are still central to the architectural lexicon, newer terms such as "rendering" and "prototypes" have entered the discipline, and have complicated the status of their analog ancestors. The terms are not equivalent, but ultimately both modes - analog and digital - generate their own abstracted residuals, so in fact there really is no such thing as paperless architecture; traditional study models have gone, but they have given way to test plots. We persist in our desire to challenge our hypotheses in the 'real' world, and these challenges leave material residues. Whereas the analog process consistently produces material leftovers at varying rates (sometimes related to expertise), leftovers in current practice are often most manifest when the thinness (abstraction) of the digital file gets tested against the thickness (reality) of the material, and when the script is tested against the 'stuff' of matter. There are dangerous implications to this statement: while there is value in articulating the shifts in outcomes between current and historical practices, reinforcing an analog/digital binary is not productive. Rather, we must situate digital and analog models of representation in a space of provocative tension.

As a means of evaluating the residual through the lens of abstraction, the Conceptual Art movement and its historical legacy could prove a useful historical precedent. Indeed, the questions that work provoked then still apply now: Object for

object's sake? Image for image's sake? Idea first, material second?<sup>12</sup> In his polemical essay "Homes for America," (1966-67) Dan Graham asserts the inverse relation of industrialized fabrication to value, whereby the surge in mass fabrication leads to the abstraction of value: "Both architecture and craftsmanship as values," Graham states, "are subverted by the dependence on simplified and easily duplicated techniques of fabrication..."<sup>13</sup> Graham both celebrates and criticizes this abstraction for its anonymity and reproducibility, and for its indictment of idiosyncrasy. In current practicebased research, formal performance is intrinsically tied to material behavior and algorithmic optimization. With the flourishing of mass customization in contemporary digital practice, how can architectural value be determined? There was a conceptual - not to mention tectonic - clarity about mass production: mechanically-based fabrication produced and assembled kits of parts, and it followed that these parts that made up the whole could conceivably be un-made as well. Can we also subject the outcomes of CAD/CAM technology to reverse engineering and can the byproducts of these operations be recuperated in some way?

### RESIDUAL, OR ERROR

The residual conceived as error often presents an enigma - that which cannot be explained, that which resists a notion of meaning as stable, that which does not "fit." Even when the complexity explicit in mass customization is maximized, it is controlled. Irregularities and anomalies are programmed within the parametric constraints of the software. It follows, then, that difference itself is embedded. Architectural residuals allude to both certainty (it is there) and speculation (what is it?), and one could argue that both certainty and speculation provoke anxiety in the discipline. The notion of residual as error can thus be determined as an incomplete construction and, as such, a token of the future. Error creates opportunities for the projection and superimposition of other meanings.

How is error possible in the age of parametric design? How is it measured? What does a 'virtual mistake' look like? One of the many goals of the digital is its ever-increasing capacity for accuracy: The minimization of degrees of tolerance, which in turn results in increased dimensional specificity. Lack or excess are not tolerated, because they are seen as threats to the process. The image is tied to the

computer, which is tied to the plotter, which is tied to the laser cutter, etc. Inaccuracies and inconsistencies ripple through the entire chain of procedures. The architect's pathology to control is not a new phenomenon - one need only recall Robin Evans' "doctrine of essentialism." Yet now, through the folding of drawing into manufacturing within a larger system of numerically controlled production (CNC), the control of tolerance can be exerted in epic proportions. In this context, error implies a loss of control - a persistence of gaps or leftovers that have not been suppressed or contained.

The celebrated philosopher and literary critic Hélène Cixous has written extensively about error, and like Evans, often within the context of drawing. Similar to the notion of a "mistake" in writing, Cixous argues that mistakes in drawing "...are our leaps in the night. Error is not lie: it is approximation. Sign that we are on track." She encourages writers and drawers alike to "advance error by error, with erring steps, by the force of error."<sup>14</sup> Thinking back to Robin Evans, Cixous' desirous evocation of error can also be understood in relation to his interpretation of gaps in translation as 'productive.' Error is risky only in its assertion of the unknown, for it is in this space of deviation and departure that innovation occurs.<sup>15</sup>

### RESIDUAL, OR RISK

Error and risk are terms that often comingle, but the latter can convey an act of heroism the former does not. The romance of risk in architecture is perpetuated in part by the discipline's positivist impulse to continually supplant older tools with newer ones: The imperative for newness is tied with a need to remain relevant in the face of the never ending cycle of new software releases. There is also a romance attached to the uncertainty implied by risk. Architects most heavily invested in the current digital moment argue that despite an unprecedented capacity to control the parameters of production, there is still "discovery" in the process, since material outcomes cannot always be determined.<sup>16</sup> Residual as risk in this context is encouraged and maximized. Given that the new tools are now generative and no longer (merely) representational, no amount of technical determinism can eliminate risk. Risk in our digital present remains.

Despite the 'post-critical' moment in which we may now find ourselves, those of us who are more in-

volved in thinking about buildings than in their making may find opportunities for critical inquiry after all, and thereby avoid the risk of disciplinary extinction.<sup>17</sup> I have attempted here to propose possible avenues for a critical re-engagement with practice. How we write and talk about buildings, it seems, needs to undergo a paradigmatic shift, since the way buildings are made has fundamentally altered. In fact, given the current emphasis on process over representation, we have a renewed responsibility to inquire about the changing paradigms of authorship in current practice, but also in our thinking about practice. What are the implications of collaborative process-based practice on (singular) authorial subject? Does the notion of process itself so central to emergent technologies risk the loss of the author? Can authorship be re-defined and re-inscribed in process if not in outmoded notions of intent? This, after all, must not kill that.

Building (in) the Future: Recasting Labor in Architecture, pp. 68, 71  
 17 Peggy Deamer, introduction, Building (in) the Future: Recasting Labor in Architecture, pp. 19-20

## ENDNOTES

- 1 Robin Evans, "Translations From Drawing to Building," (1986) in Robin Evans, *Translations from Drawing to Building and Other Essays* (London: AA Publications, 1997) p. 181
- 2 Jasmine Benyamin, "Analog Dreams," in 306090 Volume 11 (New York: 306090 Inc., 2007), pp. 90-91
- 3 Ibid., p. 90
- 4 Robin Evans, *The Projective Cast*, as cited in Robin Middleton, "Robin Evans: Writings," *Translations from Drawing to Building and Other Essays* p. 284
- 5 "Translations From Drawing to Building," p. 154
- 6 Ibid.
- 7 Walter Benjamin, "The Task of the Translator," in Michael Jennings ed., *Walter Benjamin - Selected Writings Vol.1*, (Cambridge: Harvard, 1996) 254-258.
- 8 Mario Carpo, "Revolutions: Some New Technologies in Search of an Author," in *Log #15* (New York: anyone Corporation, Winter 2009), p. 49
- 9 Ibid., pp. 49-50
- 10 Scott Marble, "Imagining Risk," in Peggy Deamer and Phillip G. Bernstein eds., *Building (in) the Future: Recasting Labor in Architecture*, (New York: Princeton Architectural Press, 2010), p. 39
- 11 Mario Carpo, Introduction, *Architecture in the Age of Printing - Orality, Writing, Typography, and Printed Images in the History of Architectural Theory* (Cambridge: MIT Press, 2001) p. 12
- 12 Lucy Lippard, *Six Years: The Dematerialization of the Art Object*, (Berkeley and Los Angeles: University of California Press, 1973) vii.
- 13 Dan Graham, "Homes for America," reprinted in Tony Godfrey ed., *Conceptual Art*, (London: Phaidon, 1998) pp. 312-313
- 14 Hélène Cixous, "Without end, no State of drawingness, no rather: The Executioner's taking off," in *Stigmata* (Abingdon: Routledge Classics, 2005) p. 18
- 15 Scott Marble, "Imagining Risk," p. 43
- 16 Branko Kolarevic, "Craft and the Digital," in