Typo: On Typology and Error

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Typology, particularly as defined by J.N.L. Durand, is reliable as a systemized process of producing architectural knowledge. It is both a standard against which one measures difference and a method of (re)producing formal and organizational models. Error, on the other hand, is by definition an aberration from an expected result and typically sought to be avoided. This paper positions the typical against the deviant as an insurgent model for architectural production employed by a host of contemporary and emerging architects. In revealing discordant positions the grounds for an alternative strategy are staged whereby the method of typological production itself is imbued with error.

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The resulting *Typo* experiment considers typology as a model for deliberate design procedures infused with error in order to generate reconfigured originals both as a method of architectural invention and for the formation of objects that create new affiliations outside of themselves. In unpacking Durand's processes of architectural production, the possibility for aberrant behavior is latent. Illustrated in his didactic method of composition, Durand's process articulates steps for rigorously developing various building types. Curiously, however, a series of possible errors are infused in Durand's methods. Through the appropriation of the typological design process itself, as opposed to any particular type, *Typo* suggests an alternative model of architectural production wherein the errors in translation are put to productive use. The generated series of typos implement transgressions in order to eschew insular and self-referential techniques of invention wherein the disfiguration of the familiar is engaged to avail itself of contingent forces.

TYPOLOGY AND INVENTION

Prior to the theorization of type that is enjoyed today–which generally allows, if not encourages, variation and invention–type was often maintained as a standard to be followed and applied directly through mimesis. Breaking from Vitruvian norms and rules established from ancient built precedents was a violation not only described as erroneous but as an offense that could unleash a torrent of criticism.[1] Pirro Ligorio's exuberant assault on Michelangelo presents evidence of this position:

"Ever since he got it into his head that he is an architect, he has done nothing but ruin the orders and the proportions found in the excellent works of the ancients. In this way, he and his followers bash in the brains of Vitruvius [*et rompono la testa a Vitruvio*]. Only the most pedantic grammarian, twisting the meaning of Priscian, would call this person an architect, painter, sculptor, poet or artisan…and only those who know nothing of these arts would claim that he is any of these things. He pursues the good and the bad equally, not knowing how to distinguish between them: since all of his work is deformed, one can say that it is the very embodiment of Error [*coglie l'Errore*].



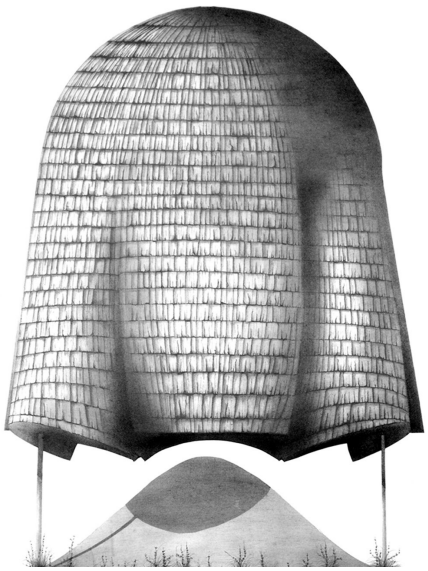

Figure 1: Accident, Norman Kelley's *Wrong Chairs* (left); Mistake, Andrew Kovacs' *Proposal for Collective Living (Bust of Medusa)* (middle); Error, Clark Thenhaus' A Project Four Domes (right).

In fact it belongs to that class of error which talented artists would be ashamed to commit…."[2]

Treating differentiation and invention with such hostility effectively characterizes variation and novelty as odious and equates deviation with deviance. Ligorio's critique describes a position in which architecture belongs to a class of objects meant to be repeatable (along with tools and instruments) and denies the value of their uniqueness, or, rather, that uniqueness is valuable.[3] If considered as a typological pursuit, type, here, is best described as a device of repetition and a model for recreating itself.

Of course, since Ligorio's critique of Michelangelo in the 16th Century, the discipline of architecture has long since moved on and released its tight grip from ordained proportional systems, styles, and ideals; evolving toward a fascination with the production of formal variation in recent decades.[4] The origin point for this modified conception is Quatremère de Quincy who first engaged type as a theoretical concept in architecture, and, in doing so, provoked a conceptualization of type that challenged its role as a pattern-book to be emulated. Rather, de Quincy articulated a few camps: *Type as Idea* and *Type as Model.* In advocating for type as an abstract principle, he correspondingly argued against its deployment as a means for repetition. This set up de Quincy's fundamental articulation of type as an abstract principle compared against the *model* which he denoted as mimetic, from which direct copies of the original would be created. According to de Quincy: "The word 'type' presents less the image of a thing to copy or imitate completely than the idea of an element which ought itself to serve as a rule for the model."[5] Instead, for de Quincy, the conception of type implicitly allowed for the modification of itself. The consideration of type in the abstract yields the possibility of unidentical variation and removes the baggage of ancient norms that warned against differentiation, deviation, and even deviance and, by extension, reveals that error could be a useful path to invention.[6]

If type, as an idea and theory, can provide the possibility of variation, then for variation to occur an identifiable type must first be established upon which deviation may then be inflicted or registered against. This is a process from which de Quincy noticeably abstains, favoring its abstraction over homing in on specific attributes that might characterize a given type. Leaping from 18th Century to the 1960's, Giulio Argan in *On Typology and Architecture* deduces that this origin type is determined through the superimposition of multiple individual forms and the elimination of their particular characteristics and formal complexities in favor of a common "*root form*." The resulting type yields "the possibility of infinite formal variation," and carves out a standardized construction of type, and moves closer to applying typology as a system aimed toward the production of architectural knowledge.[7]

Echoing Argan's *root form* is Rafael Moneo's assessment of type as "characterizing form in terms of a *deeper geometry*" and its implication of the "idea of change, or of transformation" inherent in the concept of type.[8] Latent, then, within *root forms, deep geometries,* and *abstract principles* is the possibility of creation through variation, but to what extent? If innovation is understood as the improvement of or contribution towards something already existing and invention is considered the genuine creation of something, do the deviations of type according to the above models offer more of the same without the possibility of great leaps forward in the development of a type? This begins to unpack differentiation into camps that ascribe variation to innovation, and (possibly) error as a source of invention, and, further, sets up a series of questions: how does

variation differ from error, when does variation become erroneous, and at what point does the modification of a type move outside the accepted norms of variation and into the realm of error?

With these questions looming, Moneo offers a clarification of transformation that edges toward the erroneous. Change from an origin type falls into two categories: variation, in which transformations wander only so far off the trail, and deviation, in which a radical shift occurs so extreme that the initial type is no longer recognizable, save perhaps for a few qualities. Moneo proposes a few transformational strategies for the distortion of a type, they include: scalar change, superimposition or hybridization of types, or "formal quotation" of a type in a new context.[9] Through these operations, Moneo, suggests a set of mechanisms by which a type may be modified, and, importantly, transformed so radically as to move outside the bounds of its own type, thereby *inventing* a new type. In comparing architecture to biology, they are those mutations of a species so extreme as to no longer exist within the species of origin, instead becoming monstrous.[10] Upon a close reading, it would seem that these techniques are intentionally employed errors. As easily as one might describe these as experiments in typological invention, another would render them as gaffes, blunders, and miscalculations. This helps for recognizing when an error has occurred, provides a few recommendations of how to implement error, and suggests that while variation leans toward innovation, error-making more potently offers opportunities for invention. And while Moneo offers up a few tactics for implementing error-like strategies, the term error is unsatisfying and expansive.[11] To become more precise, and thus more adept at inflicting it, a stricter definition of error is required.

DEFINING ERROR

Error is a difficult word in that it resonates with so many others like it. Terms such as error, mistake, and accident are used interchangeably. A vagueness surrounds them. Students make mistakes that are revealed as happy accidents by their studio critics. But if the typological process is to be considered a rigorous pursuit of knowledge production, a more precise definition is required such that errors (and accidents and mistakes) can be employed willfully with intention. To assist in this definition, J.L. Austin's *Two Ways of Shooting the Wrong Donkey* suffices.[12]

"You have a donkey, so have I, and they graze in the same field. The day comes when I conceive a dislike for mine. I go to shoot it, draw a bead on it, fire: the brute falls in its tracks. I inspect the victim, and find to my horror that it is your donkey. I appear on your doorstep with the remains and say - what? "I say, old sport, I'm awfully sorry, I've shot your donkey by accident"? Or "by mistake"? Then again I go to shoot my donkey as before, draw a bead on it, fire - but as I do so, the beasts move, and to my horror yours falls. Again the scene on the doorstep - what do I say? "By mistake"? Or "by accident"?"[13]

In the first instance, a *mistake*, the execution is correct, but the target set out for is not what it was thought to have been. Sean Keller's discussion of Austin's donkeys aptly brings this into the realm of architecture, comparing it to the desire to create a brightly sunlit room that ultimately becomes a heat-box. Or, rather, that the outcome from the fulfillment of execution produces unexpected results. Jean-Nicolas-Louis Durand, who has been absent thus far yet is important to the cause of typology (and error within it), provides a further example. In his taxonomy of parts, one plate in particular engenders mistake. The plate, *Les elements des edifices,* found in his *Recueil et parallèle des édifices de tout genre anciens et modernes*, depicts a set of elements or components of buildings such as vaults and columns. While the vault drawings are represented abstractly along with other generic elements that are drawn with detail, the columns carry the language of classical orders. The assemblage of elements, meant to represent fundamentals of architecture to be propagated into architecture, change their association when unlike parts –generic and abstract against specific and physical– are put in a contrasting contextual relationship with one another: the columns, loaded with historical and cultural baggage, stand distinct from the remaining elements that are otherwise agnostic. No longer purely a fundamental taxonomy, the columns are given particular weight, and suggest an assembled building with a generic set of elements homogeneously distributed among which classical order columns stand prominently in contrast.[14]

In a contemporary light, Andrew Kovacs' work serves as an example that enunciates Durand's mistake. If Durand's collection pairs unlike elements with one another, Kovacs' collaged part-to-part experiments ratchet up the conflict to the nth degree. Particularly so, the *Proposal for Collective Living (Bust of Medusa)*, reads first as an assemblage of things densely packed together. The execution is true: the project features a collage of multiple elements that themselves are each complete without distortion. Yet in examining the individual parts it is revealed that a radical mistake has occurred. Not only are elements of architecture collaged together, but so are tables, fire hydrants, ice cream swirls, and entire buildings. Strange scalar jumps spark dizzying scalar confrontations: the Arc de Triumph is lodged next to a mailbox of comparable size, a rubber duck approaches the scale of a house, and columns vary from typical proportions to the height of midrise building. The resulting act of intentional mistake-making produces a collection that is unknown and undefined by virtue of its extreme heterogeneous composition.

The second instance of the doomed donkey, the *accident*, registers as technical in nature and best defined as unfortunately executed actions. Accidents in conventional buildings might refer to uninspiring categories such as the incorrect specification of materials or, perhaps more specifically, aberrant execution such as a toilet stall with a partition too high from the floor, thus, revealing its occupant inside. Extending this logic to contemporary design work reveals fidelities with glitch projects that entertain the misuse of technical (or technological) execution as a mechanism in its formal generation. In doing so, these experiments embrace a lack of control that corresponds with intentional imprecision and manipulation of image and code.

Falling outside the bounds of technological glitch, yet still registering within the terrain of the accident is Norman Kelley's *Wrong Chairs*

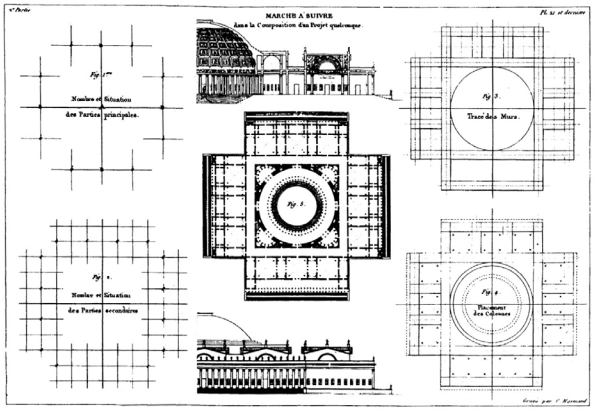

Figure 2: J.N.L Durand. Marche à suivre dans la composition d'un Project quelconque, Précis des leçons, 1813.

that exuberantly plays upon technical imprecision.[15] Typologically speaking, it is the perfect example of error-making processes. Using the iconic American Windsor Chair with its iconic and familiar form as a control for their experiment, Carrie Norman and Thomas Kelley initiate a series of intentionally imprecise maneuvers as they conjure new versions of the chair. The original specification drawings of master craftsman Dr. John Kassay are willfully adapted toward alternative motives. The outputs of these manipulations play upon the potentials of making that occur from "geometric imprecision or lack of command over tolerances" and allow for comparison against the iconic original that draw out alternative attributes and agendas of the new objects.[16] The tool of the accident is employed to service other considerations of perception, and fundamentally relies on the comparison between the origin Windsor chair and the distorted, accident-prone result.

Moving on from dead donkeys, the last term, *error*, is of particular interest. Its etymology traces back to its Latin precursor errare which means *to stray* or *to wander*.[17] As opposed to the misreading of a mistake or the technical inaccuracy of an accident, the error implies a drifting away from norms, standards, and rules. It also suggests a more procedural set of failures. After all, to stray from something implies there was an origin, path, or process from which to stray. Keller calls attention to artists who could be understood as working within this framework like Sol Lewitt or John Cage.[18] In both cases a systematic process is launched within with chances for improvisation and deviation occur. Straightforward norms are legible against irrational procedures and unpredictable outcomes; the contrast reveals its novelty.

Though not necessarily systematic in terms of design process, Clark Thenhaus' genealogical approach offers a model that has a hereditary lineage that intentionally veers from typical forms in ways consistent with error. Thenhaus, begins with a typological foundation by observing the presence of architectural darlings: a set iconic elements of architecture (columns, arches, turrets, arcades and so on) that serve as the basis for deviation. For Thenhaus, the darling of choice is the dome which, in its darling-ness, supersedes its platonic form (which would preserve the dome in an untouched state, albeit for material and scalar differentiation). Rather, the dome favors distortion, repetition, and coupling with its geometric brethren that include forms such as cylinders, cones, and spheres (insofar as they share the circle as their base plan geometry). At times, Thenhaus' forms enunciate dome-like qualities, while at other moments new readings are created. For instance, in its agglomeration, the dome/cylinder/cone/sphere forms articulate both a singular form that flickers with readings of singular parts that make up the whole. In other words, this ambivalence creates a reading of both part-to-whole and part-to-part associations. In terms of a typological error this creates a confounded reading of the initial type: the dome is both legible and subsumed by its aggregation with genealogically linked other-forms (again, cylinders, spheres, and cones). The experiments that Thenhaus conducts begin with the hereditary passing down of the dome, but in his process the pure dome typology mingles with genealogically similar types: straying from its roots, deviating from accepted norms of domes, and generating a new typological lineage.

TYPO

If typology is understood as a standardized system of knowledge, then the introduction of error into that system suggests straying from the established rule set that working typologically suggests. Interceding in known typological frameworks introduces the possibility of producing novel types grounded within a strategic process. To establish the systematic process, an important figure of typology must be brought to the fore: J.N.L. Durand.

The contribution of Durand to the architectural discipline begins with his implementation of a scientific approach to typology. Following the path set by other sciences, Durand began to categorize buildings in the same fashion as those operating in the sciences, mimicking biological taxonomies. From these classifications, Durand implemented a rigorous system of analysis, identifying important traits that resulted in the reduction of buildings to sets of geometric diagrams. These diagrams were constructed first by identifying structural axes and reducing the building to a basic formal composition. Taking this a few steps further, Durand aimed to identify and create a catalog of architectural elements and parts (smaller portions of buildings constructed from elements). From the identification of these parts, Durand set up a system by which elements assembled into parts and parts, following the abstract geometric diagrams Durand had analyzed, were organized into a composition that ultimately generated a building. Within this process is first the distillation of a building into an abstract geometric diagram that was then capable of generating a finite set of variations.

It is Durand's next steps –in which the diagram becomes building– where deviant behavior lies dormant. Illustrated in his didactic method of composition, Durand's step-by-step method articulates the logical making of various building types: first, a set of main axes of composition are laid out; second, an additional grid of secondary axes are applied to complement the primary ones; third, architectural elements come into the fold such as walls laid along the axes; fourth, columns are placed in areas bounded by walls; fifth, walls

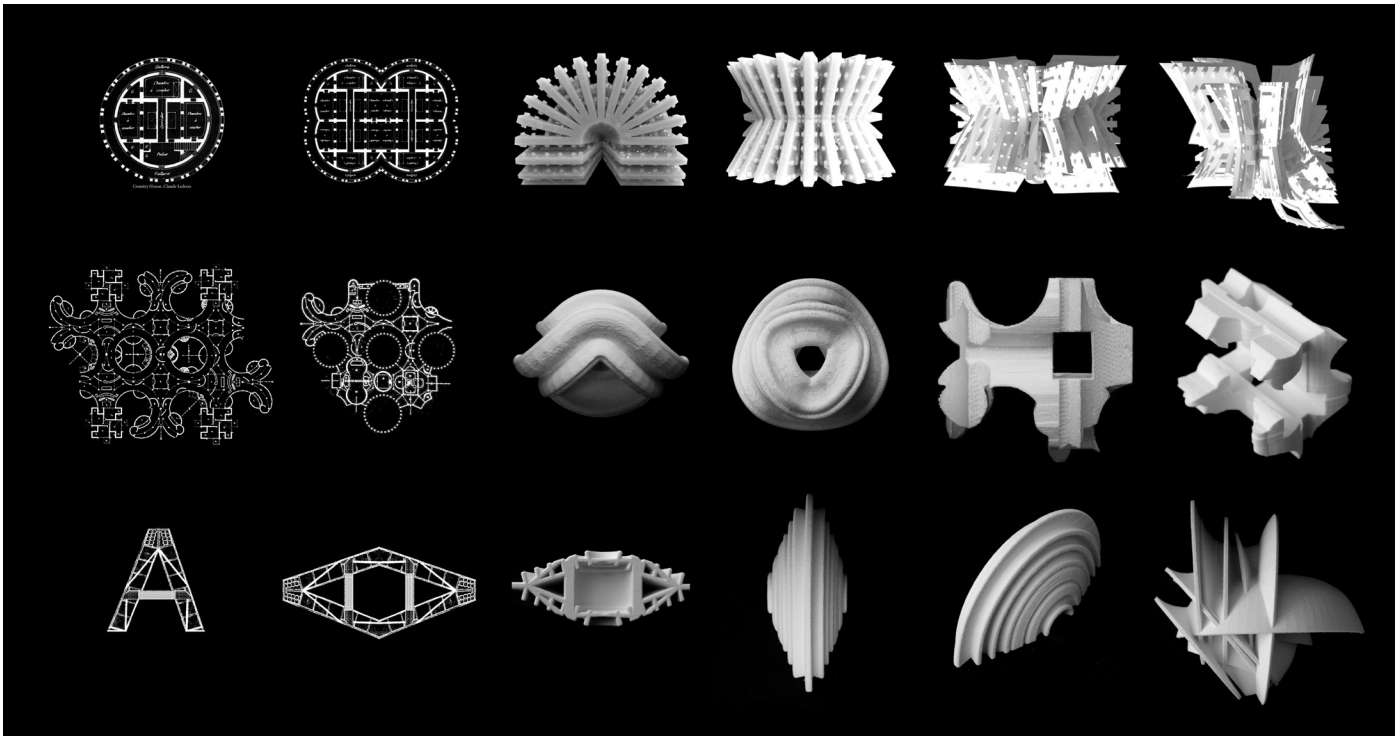

Figure 3: Typo Process, three project lineages. Precedent plan, recombinatatory repetition, three dimensional translation and differentiation, and contextual adaptation (left to right). Erica Alonzo (top), Nathan Wesseldyk (middle), Jordan Berta (bottom).

porticos, stairs, and other elements are drawn in plan; sixth, the elevation and section are generated from the plan. Curiously, the gaps between steps five and six reveal assumptions of aesthetics and norms of architecture embedded in the era, specifically in the fundamental translation of plan to elevation and section. Durand quickly leaps from plan drawing to architecture, eliminating the potential for the moment of translation to enjoy greater currency. For example, Durand assumes that a circular figure implicitly describes a dome in its three-dimensionalization. But this might be countered: a circle might yield a dome just as much as it might describe a sphere, a bowl, a cylinder, a drum, or any number of alternatives combinations.

Ultimately, the *Typo* project presented below leverages particular points in Durand's procedures that can be deemed questionable in their logic and exposes them as mistakes to be exploited in unexpected ways as part of an erroneous process.[19] Misreadings present in Durand's project are absorbed and employed as a trigger for working within and straying from typological methods of production. Through the appropriation of the typological design process itself, an alternative model is suggested. Specifically guiding the process are precepts for working typologically introduced by Durand, they are: precedent, classification, taxonomy, repetition, differentiation, and invention.[20]

1. Precedent. A catalog of plans are first compiled and organized according to use. Employing program as a means of categorizing architectures draws in the conventional connotation of type today popularized by Nicholaus Pevsner: that is, characterized by function.

2. Classification. From precedent studies, shared traits are identified between the compiled plans from which they were reorganized according to new criteria that is formal in nature but subjectively determined based on interest and agenda.

3. Taxonomy. The newly classified plans are grouped and narrowed into a select family of familiar forms, eliminating unproductive instances that interfere with the reading of type. A set of dominant traits emerge.

4. Repetition. While the first three steps may be accomplished quickly with expedience. The remaining steps require careful consideration and editing, a step toward straying is registered in which variation is expressed through *recombination*. That is, plans are edited through hybridization, splicing, cropping, and aggregation so as to create a repeated assurance of a singular type. In editing these plans radically, they move from precedent to artifact and, thus become ripe for appropriation and experimentation. Though the plans maintain detail and grain, their significance as representations of objects that truly exist in the world is intentionally dismantled and recombined into familiar but fantastical hybridizations. Effectively, the repetition phase is a reenactment of the methods articulated by Giulio Argan in his call for types to strip down extraneous traits in order to identify a type and its specific set of attributes.

5. Differentiation. The types established in the repetition phase –effectively, root forms– are then employed not as models for mimesis, but as machines for producing variation and innovation. However, it is important to remember that the aim of *Typo* is not to

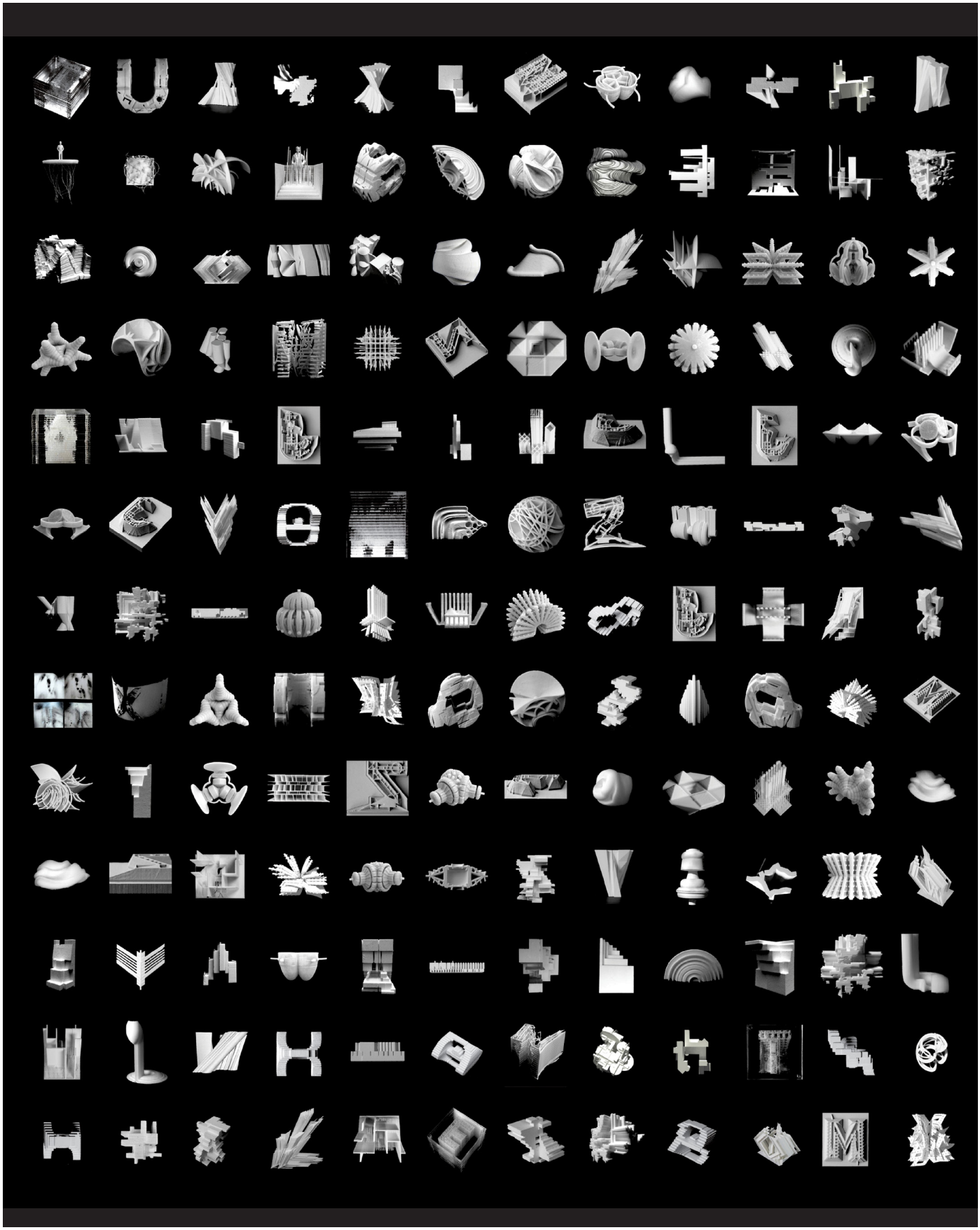

Figure 4: Catalog of typo outputs.

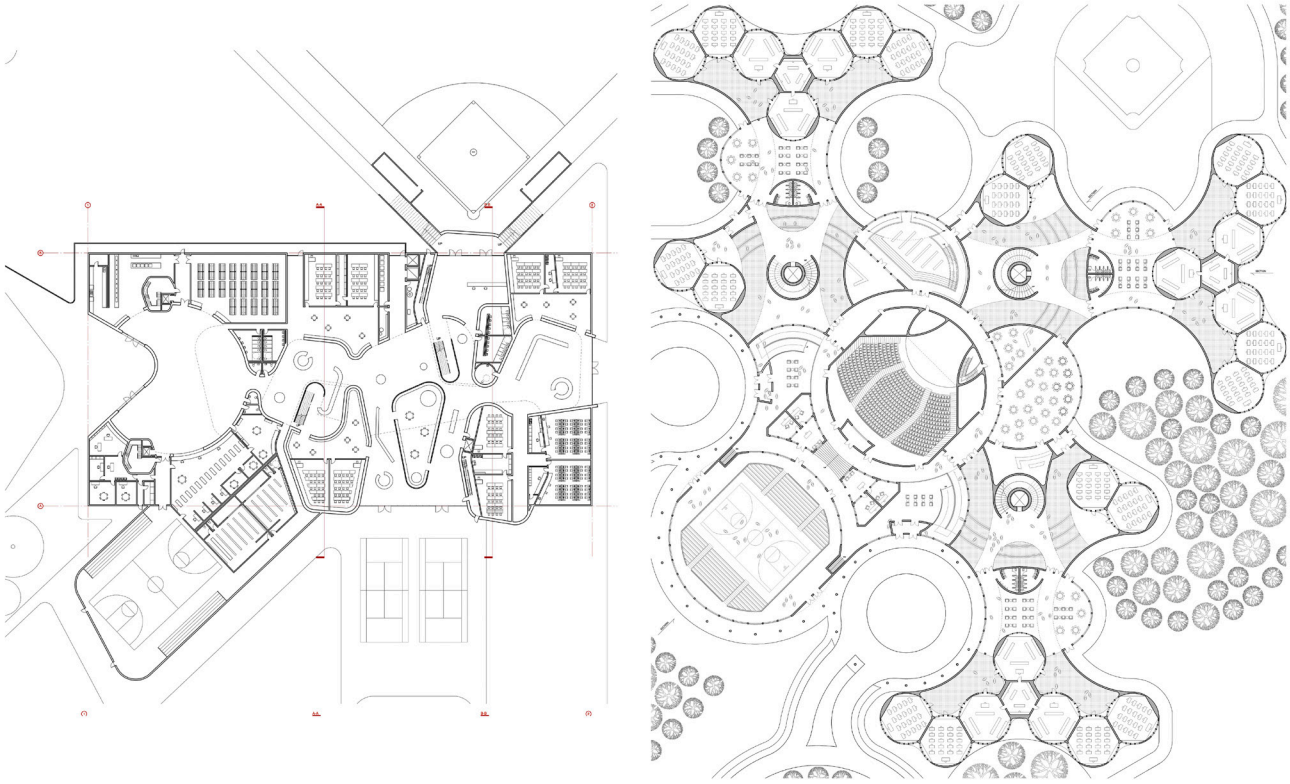

Figure 5: In its final stage, the typo objects extend their logics outward and proliferate in their sites. *Middle Ground* by Kimball Kaiser (left) and *Scholastic, Selective Permeability* by Nathan Wesseldyk (right).

create versions of a type, but is to radicalize a type, authoring invention of a type by moving sufficiently outside of its origin family.

A series of accidents and mistakes are systematically deployed at distinct moments within the differentiation phase wherein plans are superimposed, hybridized, shift in scale, etc. But the most significant moment of error occurs, as is the case of Durand, in the translation from plan to section. In some instances, plans are turned on their side becoming sections themselves. Their extrusion through one another contaminates the section and plan commensurately. Previously rigorous organizations are thrown into disarray, reconstituting new formations. In other words, the values and agendas of various drawing types begin to infect one another and correspondingly generate an alternative object provoked by representational strategies. Taken to a further extent, this strategy is extended in the formation of objects that in plan resemble axonometric projection drawings and vice versa.[21] A second category of mistakes misread plans in their translation into the third-dimension and engender alternative geometric wholes. This echoes the possible translations of a circle into a variety of results. Planometric circles are reinterpreted as hybridizations of domes and cylinders, or, even more radically, are momentary instances in which the circle registers briefly plan, otherwise concealed within an amorphous three-dimensional figuration. A third breed intentionally violates the organization themes evident in the original plan. For instance, nine-square grids are divided into four quadrants or seams that define symmetries are adjusted to move off axes creating nearly symmetrical objects.[22]

6. Invention. The result is a sequence of architectural objects that contain, along a new formal type, a set of typological erroneous processes that have particular strategies and agendas built within them.

Understanding the objects not as a formal end point, but as a manifestation of typological straying, extends the typos beyond formal invention. It is through the actualization of the objects into architecture that the *Typo* project puts to good use the formal outputs. Context, program, and broader intentions are addressed that shift the readings of the artifacts away from singular self-referential objects. The types are no longer tied simply to a set of formal characteristics that might describe them, but contain within them procedures of formation that may be operationalized. In other words, the same processes that formed the newly invented type, are available to be leveraged toward some other end. For instance, a series of not-quite-symmetrical objects reveal strategies for implementation in diverse site conditions, or a repeatedly superimposed figure offers opportunities for programmatic cross-breeding and hybridization.

In radicalizing type through introductions of error, the typos that result suggest opportunities for deploying their particular skills that give them an advantage over other types. They move beyond the bounds of autonomous formal objects and are instead packed with viable extensions of themselves and toward unforeseen agendas.

The fear of systematic design methodologies is the possibility that they may become prolific and infinitely expand to create an architecture of sameness. The introduction of error into the process derails that outcome, both in anticipating novelty and working with agenda while also constructing robust procedures for injecting mistakes and accidents. Typos, in their paradoxical pairing of reliable systems with imprecision and unpredictability, are momentarily frozen dialogs between known familiar forms and conditions that frustrate them. The output describes a situation by which design methodologies are more capable of resolving architectural concerns with complex social, political, economic, and infrastructural dynamics that typology is on its own ill-equipped to manage.

ENDNOTES

1. Brian Grazer and Charles Fishman, *A Curious Mind: The Secret to a Bigger Life* (New York: Simon & Schuster, 2015), 12.

1. Serlio exemplifies this call for adherence: "modern architects should not err (by err I mean go against Vitruvian precepts)." Serlio, *Tutte l-opera d-architecttura et prospettiva* trans. V. Hart and P. in Daniel Scherer, "Error or Invention?" *Perspecta: The Yale Architectural Journal* 46, *Error* (2013): 81.

2. Pirro Ligorio, "Treatise on the Nobility of the Ancient Arts" trans. Daniel Sherer, *Perspecta: The Yale Architectural Journal 46, Error* (2013): 151.

3. Rafael Moneo, "On Typology," *Oppositions* 13 (1978): 22-45.

4. Caroline O'Donnell, *Niche tactics: Generative Relationships Between Architecture and Site* (New York: Routledge, 2015): 13-15.

5. Quatremère de Quincy, "Type" in *Encyclopédie Méthodique*, vol. 3 trans. Samir Younés, reprinted in *The Historical Dictionary of Architecture of Quatremère de Quincy* (London: Papadakis Publisher, 2000).

6. Lee, Christopher. "Type." *The City as a Project.* Accessed October 10, 2017. http://thecityasaproject.org/2011/08/type/.

7. Giulio Argan, "On Typology and Architecture," *Architectural Design* no. 33 (December 1963): 564-565.

8. Moneo, "On Typology," 23.

9. Moneo, "On Typology," 27.

10. Caroline O'Donnell, "Hopeful Monsters," *Niche tactics: Generative Relationships Between Architecture and Site* (New York: Routledge, 2015): 186-206.

11. An incomplete list of synonyms and terms affiliated with error include: blooper, blunder, disobedient, inaccurate, improper, imprecise, incorrect, inexact, miscalculation, fault, faux pas, flaw, gaffe, misapprehend, misbehavior, misinterpretation, misjudge, misread, mistake, misstep, misunderstanding, offence, oversight, slip-up, transgression, wrong.

12. This discussion of J.L. Austin's *Two Ways of Shooting the Wrong Donkey* draws from Sean Keller's excellent account of error as methodology.

    Sean Keller, "Ways about Error," *Perspecta: The Yale Architectural Journal 46, Error* (2013): 28-43.

13. J.L. Austin, "A Plea for Excuses" (1956), in Sean Keller, "Ways about Error," *Perspecta: The Yale Architectural Journal 46, Error* (2013): 30.

14. Madrazo, Leandro. "Durand and the Science of Architecture." *Journal of Architectural Education* 48, no. 1 (1994): 12-24.

15. Norman Kelley describes Wrong Chairs with the terms error, mistake, and wrong, but never accident. However, based on the set of criteria developed in this paper, accidents in particular relate to tolerance, precision, and control over the outcome. By employing imprecision as a mechanism to impart deviation, the project is capable of being categorized as technically deficient (even though the tactics are used intentionally), and sharing affinity with accidents.

16. "Wrong Chairs." *MAS CONTEXT.* March 05, 2016. Accessed October 4, 2017. http://www.mascontext.com/issues/23-ordinary-fall-14/wrong-chairs/.

17. Scherer, "Error or Invention?," 80.

18. Keller, "Ways about Error," 36-42.

19. The work featured here is output of a series of Typo courses led by the author: a seminar at Cornell University's Department of Art, Architecture, and Planning in Spring 2016 and a graduate studio at the University of Michigan's Taubman College of Architecture and Urban Planning in Fall 2016. Additionally work if available at the webpages below.

    http://typo-spring2016.tumblr.com/

    http://typo-michigan-2016.tumblr.com/

20. Christopher Lee, "Working in Series," Lecture, from The Architectural Association, London, England, November 23, 2010.

21. References to this means of translating orthographic translations into skewed physical objects are Eisenman's House X model or more recently Erin Besler's translations of Eisenman's House VI drawings into wire cut objects in her project, "Low Fidelity."

22. Examples of these types of strategy are found in a series of projects of contemporary architects such as First Office's "4 Square 9", Kyle Miller's "The Plan is the Generator," and Maxi Spina's "In Turn."