Bad Lines

We discuss, analyze, and parse architects' formal or material agendas yet more often than not, at the root of those qualities, are a unique linteype defined through drawings. Thus, if one can invent a new linetype one can invent a new architecture. What this paper proposes is nothing short of a completely novel style of architecture. An architecture characterized by an otherwise overlooked linetype: bad lines.

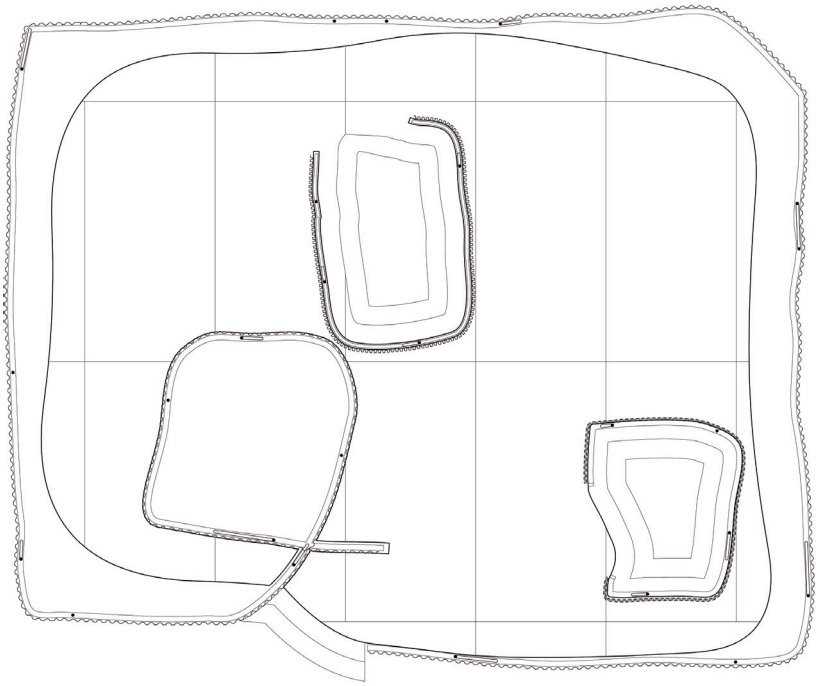
KYLE REYNOLDS
University of Wisconsin–Milwaukee

THE GOOD AND THE BAD

From John Hejduk to Raimund Abraham, more than a few architects have suggested that drawing is architecture. This assertion is reductive at best and may not hold up under scrutiny. Yet it is fair to say that drawing is quite important to architecture. Drawing is a fundamental architectural act. It is essential to architectural production. How one draws or the types of drawings one makes is the primary determining factor in the architecture that results. A drawing's most primitive component is its lines. We discuss, analyze, and parse architects' formal or material agendas yet more often than not, at the root of those qualities, are a unique linteype defined through drawings. Thus, if one can invent a new linetype one can invent a new architecture. What this paper proposes is nothing short of a completely novel style of architecture. An architecture characterized by an otherwise overlooked linetype: bad lines.

The line holds architectural implications. There is a complicit relationship between representation and architectural intention. The naïve curve, the bubbly cartoon, the clean orthogonal, the smooth spline, the chubby diagrammatic: each of these is inextricably affiliated with the architectural Project it delineates. These are good lines. They carry well-established and closely examined sets of techniques and associations. They reinforce the intentions of their respective architectural Projects. They're graphically pleasing. They can be taught. One can look at the good line, look at the architecture, and see how one influences the other.

Just as there are good lines, which have been accepted into the discipline, there must also be bad lines that have been rejected. Bad lines do none of the things the good line does. No one teaches them. They bear no relation to any architectural Project you can recall. They are non-communicative, illegible, unexamined, un-technical, and frankly, ugly. They are the wobbly, chamfered, too fat, too thin, sketchy, broken, imprecise, ill-formed, and shunned rela¬tives of the good line. The bad line is as derided and avoided as the good line is championed and imitated.



1

Figure 1: Bad Lines Pavilion Plan, *is-office*

TRANSLATION

Most architects absorb conventions. They accept a body of standards into their work, normalizing it to some degree. There are also architects that deviate from these norms. They challenge convention and standards in an attempt to produce novelty. Yet almost all architecture uses good lines as its primary method of creation. And good lines embrace normative conventions. This norm, it turns out, is unavoidable. The architect of good lines can only deviate through perfection. They can enhance their good lines to generic precision and nothing more. This process is quite familiar. It can begin with an initial sketch translated into splines. Then move into a parametric model to optimize curvature and enhance performance. And end in a series of engineering processes to ensure accurate and affordable construction. These deviations are derivative of a normative architecture. They strive for perfection and use techniques such as smoothing, refining, optimizing, and enhancing.

The use of bad lines in architecture is a deviation from the embedded normative conventions of the discipline and its "best practices." Their use is wrong and uncomfortable. Bad lines are the rejects, those things cast aside. Bad lines are avoided or worked over in the design process, leaving no trace of their presence. While good lines deviate from a norm through an extension of normative conventions, bad lines do so through inversion. They cause a deviation more extreme than even the most refined and perfected good lines. They are oppositional. They challenge the acceptability and placement of techniques, traits, and types within the discipline. Their qualities: imperfection, slack, discomfort, and imprecision, go against the very training of most architects. Yet, they offer the foundation for the only truly non-normative architecture. They challenge the basis of linetype and its roll in architectural creation.

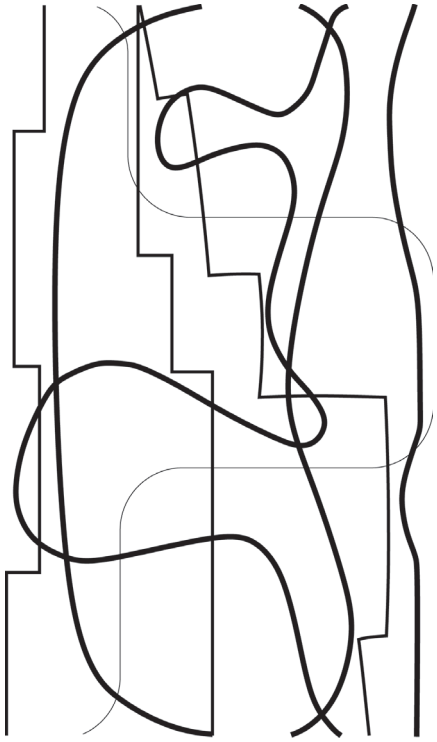
Just as the use of good and bad lines provide a sliding scale of deviation from a normative architecture; they also afford variation within the process of design. There are two techniques available to projects of good and bad lines as their designs evolve. The first, taming the beast, is most clearly demonstrated in Frank Gehry's work. Gehry's projects often begin with a loose sketch; a scribble or gestural drawing. These sketches contain the seed of a compositional idea that embarks on a journey of translation through many different media to produce a refined project. On the surface (or page), Gehry's work may seem to sit outside

the good lines genre. It is different than most types of architecture. Yet his projects still behave with the logic of good lines. Each process of translation, and the media and mediums it touches, from sketch to built artifact are an attempt to tame that initial gesture into a refined, smooth, clean, and buildable object. Gehry's good lines may be distinctly curvy, but the process of their creation is well worn.

Unlike Gehry, SANAA's good lines emerge fully formed at the stage of initial output. The drawing or model is the architecture and its sensibilities must not change. This is the keep it constant method, where good lines are so good that they cant be any better. Sure, there are material issues to resolve, programs to tweak, and building systems to incorporate. But SANAA's work does not suffer from the same needs of refinement as Gehry's. They are similar only in their elaborate design processes. SANAA's team must use all the means at its disposal to ensure the final product is as pure as the initial diagram. From sketch, to drawing, to model making, to bigger model making, to even bigger model making, to material mock up after material mock up; the process is relentless in its pursuit of perfect translation.

Bad lines offer the same techniques of execution as good lines; with different results. The first, make it looser, is in many ways the inverse of the refinement demonstrated in Gehry's work. This method uses low tech construction techniques and finds a corollary in the work of SITE's Best stores and James Stirling's Neue Staatsgalerie. In each Best store, SITE created variations on the entry and envelope of a big box. Many appear to be falling apart. Piles of bricks tumble down their façades and entire portions of enclosures break off. A similar effect happens on a smaller scale in Stirling's Staatsgalerie. Blocks are removed from a stone facade and casually dropped on the ground to produce an aperture. Making bad lines worse requires methods or materials that create more slack or imprecision. The bad lines are inherent to the architecture yet can be layered with material qualities, such as those in SITE and Stirling's projects, to intensify their unique characteristics.

Some bad lines might already be bad enough. Like in SANAA's keep it constant method, the bad enough technique is beneficial to designs that need to avoid unintended refinement. Since bad lines contain more nuance and differentiation than their good lines counterparts, this technique relies on high tech methods of construction. There is a level of control needed to create an accurate construction of a wobbly line or fat broken line. Without the desire for normative types of refinement, the replication of the bad lines exact qualities is paramount.



2

Figure 2: SANAA Lines

CHARACTERISTICS

The defining characteristics of good lines are their use and acceptance within the discipline. Many architects in many locations deploy them with only subtle variations between types. They are second nature, ingrained in the core of architectural representation. Their characteristics are many and varied but they share a common desire for precision. They gain strength from repetition and imitation. The tools, methods, and means of design and construction were established to enact an architecture of good lines. Not all currently acknowledged good lines might have started out that way. Yet they were certainly close descendants of the already well-established canon.

The effects produced by good lines are wide ranging but familiar. From the sinuous, smooth, and continuous curve to the perfect angle and optimized fillet, good lines deliver comfortable and easy to digest types of architecture. Even in their most extreme and novel deployment, they meet our expectations of what an avant-garde architecture should produce. They have no power to shock, which is both their biggest liability and greatest asset.

A closer analysis of notable good lines reveals their core traits. Le Corbusier's early Modernist work is reliant upon the orthogonal. Yet not in the same manner as Mies, whose vast lines imply extensions beyond the boundaries of his architecture. Le Corbusier uses the

3

orthogonal to develop a rhythm and procession. This rhythm informs the use of curves in his later Brutalist compositions. These curves are almost all compound. Each one composed of a series of curves stitched together to form a clunky approximation of a familiar shape. They also reference the rhythm established in the earlier orthogonal compositions. A broad stretched line bleeds into a sharp rotation to create an abrupt transition from one line to the next. The shapes formed by these lines are odd, but composed and familiar. They are good lines at their core and easily replicated.

Oscar Niemeyer's lines almost all contain the same gradual angle. Niemeyer is known for his curves and they come in a variety of types. Not quite splines and not quite arcs, Niemeyer's curves are smooth and loose. There is an informality about them that only the hand can create. Many of Niemeyer's lines set up inversions along their length. They start out with a straight line or curve, come to a complete stop at a point or angle, and invert with another curve in the opposite direction. There are just as many lines that use this abrupt point stop transition as those that develop from continuity. Niemeyer's lines are fluid, yet familiar. We've seen them before and we'll likely see them again.

Zaha Hadid's lines come in three general types: the acute angle swoop, the filleted corner, and the parametric curve. Her lines are continuous with subtle shifts and overlaps in each composition. The lines bounce around and move with a streamlined fluidity that is absent from Niemeyer's work. These lines aren't playful or gentle, but serious and specific. There is intention behind their movement. They get where they need to go and stop. With the appearance of slight impatience and tension, these lines have an attitude.

Bad lines are the lines that haven't yet found a place within the discipline. To be certain, some of their marks do appear in architect's processes. But they are actively scrubbed away and removed, persuaded by the familiarity and neat resolution offered by good lines. Bad lines are not comfortable and are often the result of imprecision or a fill in for a lack of intention. They may be tests, or scribbles, mistakes, wobbles, or underappreciated tendencies. Yet when deployed with intention, bad lines offer nothing short of a completely novel style of architecture.

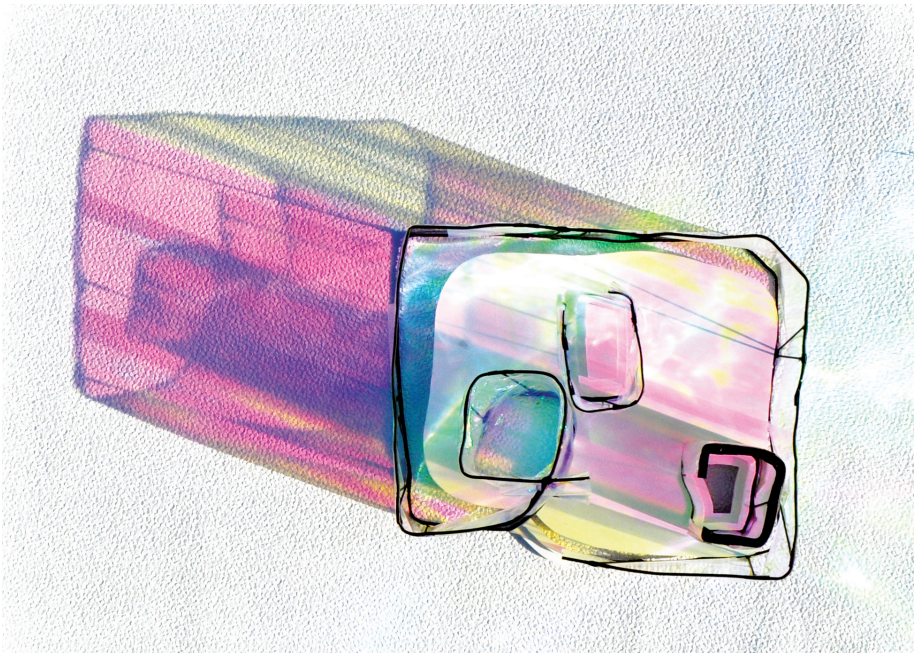
Where the fillet dominates contemporary architectural design, the chamfer is its outcast relative. Rough, abrupt, and somewhat unsettling the chamfer is aggressive, almost crude in its measures. As a means to transition from one line to the next the chamfer disturbs the continuity the fillet offers. In so doing it opens up other possibilities; extra faces and the ability to reorient to any angle and scale.

The wobble, a trait associated with hand drawing, is the subtle shift in an otherwise good line. From the orthogonal to the arc, the wobble produces difference along a length. It breaks up a singular gesture into smaller movements that can add scale and intricacies in more subtle ways than simple aggregation.

The overlap is seen as a mistake or lack of precision. It creates a moment of intersection, an extension, or an inside and outside depending on its placement. Overlaps are unresolved. They are the near miss and offer the possibility of something yet to come.

The scribble is the unintentional fill. It is the attempt to approximate through excess rather than precision. It is more than it needs to be and can change orientation, scale, and intersection. It is the ultimate tool in the bad lines kit, a type of line free from all constraints and bound by no rules. A scribble is a scribble and nothing else. Its possibilities are endless. The intricacy and differentiation it can create suggests a novel form of decoration with simple means of construction. The scribble is to bad lines what the orthogonal is to good lines; its base and default condition.

Figure 3: Oscar Niemeyer Lines



4

BAD LINES PAVILION

The bad line's maligned outsider status, unfit for architecture, makes it ripe to exploit for new potentials. A pavilion called "bad lines" was designed by is-office to examine this possibility, by taking the bad line as its starting point and shifting the role of the line from abandoned by-product of production to conceptual spring¬board of design. An unrefined sketch was translated directly into architectural form, generating a not-quite-familiar architecture that vaguely elicited the idea of the minimalist pavilion.

The purity of minimalist geometry is translated through the technique of the bad line into a form where the box and the plinth remain somewhat recognizable, but acquire a novel crudeness. The clean and resolved steel connection details are translated through bent carbon-steel piping and the planar glass is replaced by iridescent plastic sheeting. The tautness of the original is displaced by the slackness of the piping and the tarp. The translation of the materials generates the loose minimalist pavilion; bad line becomes novel formal logic.

This pavilion operates within the history of the architectural folly, a history characterized by the building of structures that resemble, but are not, architecture. Follies look like occupiable buildings, but act to reframe their external environments. They generate fictional histories. They confuse the natural and the artificial, struc¬ture and affect. The pavilion reframes its park context, layering tarps to create enclosures of varying transparencies. The piling of iridescent material makes visible this layering of transparency, adding noise and reflection rather than clarity: a multiplication of affect. The plinth acts as a partial removal from the site, vertically differentiated but still open-air, and provides a series of stepped platforms that allow varying experiences of the interior. The slackness of the plan creates varying readings of the pavilion according to direction, a continuously changing elevation.

5

THE BAD

Bad lines are an attempt to add to the discipline's existing formal and generative offerings. Their intended uses are no different than what already exists. Unique linetypes have always created novel forms of architecture, in most cases of a particular type. Bad lines are a different type and a different style. They are not new, nothing really is.

Figure 4: Bad Lines Pavilion Overhead View, *is-office*

Figure 5: Bad Lines Pavilion Interior View, *is-office*