

Everything Is Already an Image

To patiently describe the world to oneself is to prepare the ground for an as yet unavailable politics. New descriptions can, under the right circumstances, be made to serve as the raw substrate for political impulses that cannot yet be expressed or lived because their preconditions have not been arranged and articulated. This essay is an outline of one such descriptive effort undertaken in recent years by our office, MILLIØNS. It is the rough sketch of a long-standing project of clarifying, if only for ourselves, the status of computational images in our thought and work.¹

What follows is not a theory of architectural images but rather a brief philosophical description of architecture after *imaging*. My aim in airing these ideas is not so much to contradict the prevailing discourse – in which terms like *digital* and *postdigital* are used regularly – but simply to show what happens if the technical basis of architecture is examined very closely, if its technical terms and concepts are taken very seriously, at times even literally.

First, three axioms for reading this essay:

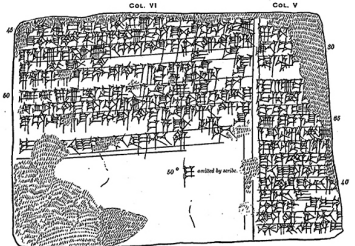
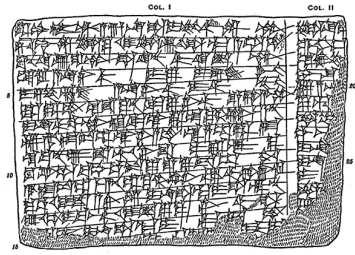
Axiom 1: There are no pretechnical forms of thought. There are no ways of thinking that remain isolated from technical acts, no ideas or dreams or fears or desires insulated from the characteristics of a given technical age. The notion that ideas exist apart from their technical formation (in the brain or “the mind”) is one of the most pervasive fallacies of modern life. Even our oldest forms of thought and expression – many of which were prelinguistic (ideographic, pictographic, cuneiform, etc.) – involved thoroughly technical-gestural acts of marking, inscribing, and engraving.² Seen from an anthropological view, technical life is inseparable from processes of *hominization* – inseparable, that is, from the very processes by which a group of animals learned to think of themselves as human subjects distinct from an objective world. This paleo-ontological view, which asserts that life is always lived by means other than life – that is, by way of technical organs (objects) – is what establishes *technics* as a conceptual category distinct from so-called technology (a term that will not be used here).³

1. Our position throughout this exploration is that the word *digital* has, through overuse and generalization, lost all sense and meaning and that we will have to rely on other words, other concepts, to describe the world anew. Certainly the remarkable and ongoing “Archaeology of the Digital” project at the Canadian Centre for Architecture (CCA), has gone some way to recover this lost meaning during a specific moment in architectural thought, but as will become clear, the present description of computational images diverges from that project in fundamental and irreconcilable ways.

2. See André Leroi-Gourhan, *Gesture and Speech*, trans. Anna Bostock Berger (Cambridge: MIT Press, 1993); or Jean Bottéro, *Mesopotamia: Writing, Reasoning, and the Gods*, trans. Zainab Bahrani and Marc van de Mieroop (Chicago: University of Chicago Press, 1992).

3. See Leo Marx, “Technology: The Emergence of a Hazardous Concept,” *Technology and Culture* 51, no. 3 (July 2010): 561–77.

Akkadian clay tablet, ca. 1900–1600 BCE. Column 2 contains a partial version of the ancient Sumerian Legend of Etana written in cuneiform. From Albert Clay, *A Hebrew Deluge Story in Cuneiform, and other Epic Fragments in the Pierpont Morgan Library* (1922). All images courtesy the author.



Axiom 2: Nothing technical is ever merely technical. There are no “minor technicalities”; or rather, all technicalities are tethered, in some way or another, to the deepest regions of consciousness. All technicalities warrant historical and philosophical reflection because we can discover hidden aspects of ourselves and our thought in even the most seemingly mundane technical routines. New descriptions of those aspects will never amount to a “solution” to any specific life problem, because life’s technical immersion is not a problem to be solved but a condition to be continually reunderstood. Which is to say that the best philosophies of technics are, strictly speaking, useless.

Axiom 3: The specific conception of time embedded in a technical system is inseparable from the forms of thought and imagination it makes possible or impossible. Distinct technical ages are bound up with distinct conceptions of time. Technics contain specific *models of time*, which resonate with lived life. From an anthropological view, all technics are an externalization of *programs*: gestural-mental routines for living life. For our purposes here, all technics may be regarded as *mnemo-technics*: storehouses of the cumulative knowledge and wisdom we now refer to as “culture,” whose memory exceeds the lifespan of the finite individual. In the processes of externalizing memory (which, in their accumulation, form cultures), the storage speed of the medium – its speed of inscription or recording and its *retentional duration* – is decisive for the forms of consciousness with which it is associated. The structural pace with which any given technical system allows us to record our thoughts and actions is inseparable from the ways of life it makes possible or impossible.⁴

4. I am drawing heavily here on Leroi-Gourhan’s analysis of programming in *Gesture and Speech*, but also on Bernard Stiegler’s reading of that work in his own *Technics and Time* volumes. It is impossible to adequately acknowledge here the full debt owed by the present essay to that body of work. The third axiom, for example, is a hopelessly reduced condensation of Stiegler’s central thesis: “Technics, far from being merely in time, properly constitutes time.” *Technics and Time*, vol. 1, *The Fault of Epimetheus*, trans. Richard Beardsworth and George Collins (Stanford: Stanford University Press, 1998), 27.

Film still from *The Language of Drawing*, Mechanical Drawing Series, produced by the McGraw Hill Book Company, 1948.



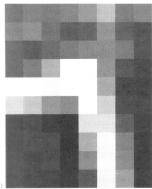
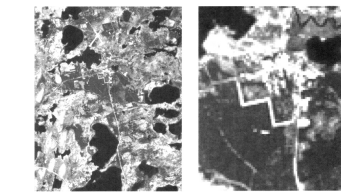
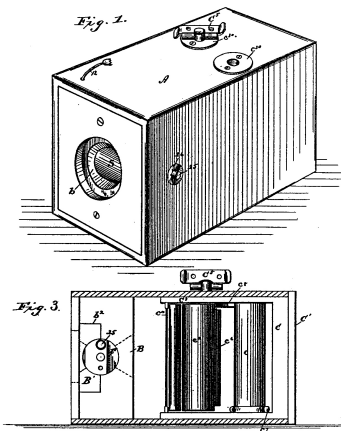
Drawing, Photograph, Image

These three axioms can be driven sideways through the three categories of visual depiction that supposedly define contemporary architectural culture: drawings, photographs, and images. Architecture today seems uninterested in distinguishing between these three or, at the very least, seems unable to parse their ambiguities with any consistency.⁵ Far from indicating the permanence, exchangeability, or “resurgence” of any one category, the slippages between them is symptomatic of a chronic confusion, throughout the design fields, that is rooted in basic category errors concerning the enmeshment of life, thought, and technique. In place of that ambiguity, let us establish certain minimum technical criteria to define each category.⁶

Drawing: What is architectural drawing? In the first place, drawings consist of hand-mechanical gestures that inscribe or deposit geometric, rule-bound (syntactic) marks into or onto a seemingly stable surface. Hand-mechanical depiction is static: once drawn, drawings do not move. At base, “architectural drawing” refers to acts of geometric gesturing *always* aided by mechanical tools, always in some way mechanized, such that the gesture itself belongs to a synchronization between the hands and various externalized organs (straightedges, compasses, squares, etc.). Even “freehand” drawing (sketching) always involves the becoming-mechanical, through practice, of hand movements in relation to a tool. In both cases, gestures become predictable, regular, controlled, and approximately repeatable; their coordination is mechanistic.

5. See Sam Jacob, “Drawing in a Post-digital Age,” *Metropolis* 36, no. 8 (March 2017): 76–81; or Peter Cook, *Drawing: The Motive Force of Architecture* (Chichester: Wiley, 2014). These ambiguities have also surfaced in countless academic events, including recent exhibitions and symposia at Yale (“Is Drawing Dead?,” 2012), MIT (“Does Drawing Have a Future?,” 2014), Princeton (“Postmodern Procedures,” 2015), California College of the Arts (“Drawing Codes: Experimental Protocols of Architectural Representation,” 2017) and most recently, and perhaps most clearly, at SCI-Arc (“Drawings’ Conclusions,” 2017).

6. It must be asserted at the outset that our project at MILLIØNS is wholly agnostic regarding the relative value of these three technical formats. From a technical-historical standpoint, it is simply nonsensical to ask whether one is “better” than another, or whether one constitutes an improvement over the others. We are concerned only to understand them as technical categories (knowing that such categories inflect lived life), through a kind of engineering analysis of their epistemic carrying capacities – an enumeration of the possibilities and limitations contained within each format. If our work declares the end of drawing, it does so completely unceremoniously, and *only* on the basis of an undeniable technical (gestural-mental) obsolescence that remains largely obscured by a slowly fading nostalgia.



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27	26	28	23	37	54	37	24
28	26	26	24	31	53	40	25

Brightness values based on detected variations in scenic light energy. From Thomas Lillesand, Ralph W. Kiefer, and Jonathan Chipman, *Remote Sensing and Image Interpretation*, 7th ed. (2004). Top: Illustrations from George Eastman, US Patent 388850, for Camera, filed March 30, 1888, and issued September 4, 1888. Figure 1 shows a perspective view of the complete instrument. Figure 3 shows a top view of the camera.

Photograph: Seen technically, all photography is a form of *heliography*: the writing of the sun. Photography always involves the organ-ized – that is, coordinated by mechanisms – exposure of a chemical “first substance” to “the action of light.” The photograph is thus always a mechanical-chemical (or *chemomechanical*) visual format, depicting “without any idea of drawing . . . the most detailed views, the most picturesque scenery.”⁷ Despite its capacity to depict a visual scene nearly instantaneously, the invention of photography amounted to a regression in the domain of visual mathematization. Whereas the constructed perspective drawing was a thoroughly mathematical depiction (drawings were geometric arrangements of geometric quantities), the mathematics of a photograph always remains locked deep within its chemical composition – in the formulas and equations expressing that composition. The photograph offers no empirical surface for immediate calculation; it must be labored over if quantities are to be extracted from it. It was precisely this regressive weakness that stimulated, during the 20th century, the gradual coalescing of a new format – the electrical image – from technical domains unrelated to the practice of photography, from electrical engineering, telegraphy, and physiological optics.

Image: Too much has been said of images – historically, aesthetically, politically. But nontechnical definitions are no longer helpful for architecture, so let us offer an extremely specific definition: in our lives, imaging is a form of photon detection. Unlike photographs, in which scenic light is made visible during chemical exposure, all imaging today is a process of detecting energy emitted by an environment and chopping it into discrete, measurable electrical charges called signals, which are stored, calculated, managed, and manipulated through various statistical methods. Images are thus the outputs of energetic processes defined by *signalization*, and these signals, in their accumulation, are what we mean when we say the word *data*. Images are data, and all imaging is, knowingly or not, an act of data processing. It is precisely the energetic basis of all imaging that, from Nipkow onward, opened up the possibility of forms of screen movement that were not predicated on the rapid mechanical succession of cinematic still photographs (film) but rather on the *exponentially* more rapid transmission of electrical signals. In other words, images are inherently dynamic, and our tendency to think of them as fixed is likely related to the psychological residue of drawings and chemical photographs. Because

Nicéphore Niépce, *View from Window at Le Gras*, ca. 1826–27. This heliographic image, taken in Saint-Loup-de-Vareannes, France, is the oldest camera photograph in existence.



signals are energy transmitted from detectors to storage formats, signalization is inseparable from telematics: the electrical transmission of images (or, more precisely, of the data comprising any image).⁸ As a storage format, images are always already quantified, always already mathematized. This cannot be overemphasized: in every instance that follows, the term *image* refers only to this very narrow (but now ubiquitous) telematic technical format.

Photo-*graphy* and photo- are held apart from one another as technical categories by this fundamental and unbridgeable epistemic abyss between heliography and bolometry, between photography as written light and imaging as detected energy, between Nicéphore Niépce's *View from the Window at Le Gras* (ca. 1826) and John Logie Baird's telescan of Oliver Hutchinson (1926). For this very simple, technical reason, photographs and images have virtually nothing in common with one another – nothing, that is, aside from a visual resemblance that has led us to equate two completely incompatible technical formats, belonging to two competing epistemic visions of the world. Images are far more closely related to spreadsheets and statistical formulas than to photographs, whose chemical composition permanently obscures their underlying mathematical structure. Photographs, never immediately calculable, remain thoroughly visual; images, structurally calculable, are only apparently visual.

Can we now see that phrases like *digital photograph* or *computer graphics* are not merely self-contradictions, but are at war with themselves, the second term in both cases waging a valiant but ultimately futile campaign against technical obsolescence? It is a campaign waged entirely within the

7. Louis Jacques Mandé Daguerre, "Daguerreotype," in *Classic Essays on Photography*, ed. Alan Trachtenberg (New Haven: Leete's Island, 1980), 13.

8. Signalization and telematics are so entwined that the project to realize the electrical image as a transmissible form of visual information was motivated by the desire during World War II to transmit scenic military information instantly and automatically (which is to say, electronically), much like telegraphy had already "instantized" discourse by transforming its content into (signalized) information.



John Logie Baird, *Oliver Hutchinson*, a telescan produced on January 26, 1926, using a mechanical Nipkow disk containing lenses and a light-sensitive electrical cell.

9. Robin Evans, "Translations from Drawing to Building," *AA Files* 12 (Summer 1986): 16.

terrain of the psyche, where our language lingers stubbornly, and where concepts that long ago lost their purchase on reality persist as nothing more than collective mental habits. In this view, the so-called digital photograph is revealed as an oxymoronic conjunction in which the incommensurability of both terms is masked beneath their apparent similarity. No one has ever produced a digital photograph. We do not carry cameras in our pockets; we carry energy detectors. Anyone who has ever used Photoshop (a misnomer) knows this to be true.

Drawing, photograph, image: three distinct and utterly incompatible forms of memory and storage. Drawings are a hand-mechanical, geometric storage format; photographs are chemical-mechanical storage (granular and molecular, but not at all geometric); images are a statistical-electrical storage format. Because technics are, at base, coincident with cultural memory itself – because all techniques are ways of recording, storing, and retrieving thoughts and systems of knowledge that exceed the finitude of any single individual life – these three different formats realize three distinct mass psychologies, producing and reproducing forms of consciousness within the cultures that continually (mostly habitually) engage with them.

Through the succession of technical regimes, one format can gradually – or suddenly – eliminate not only a previous format (technical obsolescence) but also an entire mode of storage and its attendant forms of thought, imagination, and consciousness. Put simply, technical succession makes impossible previous ways of thought and life and makes possible other ways of thought and life.

What Orthography Was

"It would be possible . . . to write a history of Western architecture that would have little to do with either style or signification, concentrating instead on the manner of working."⁹ Seen from an anthropological view, orthography is a geometric gesture that arranges marks into legible (repeatable, and therefore recognizable) lines and texts. Etymologically, *orthography* means something like "straight scratching," or more precisely *correct* scratching/digging/inscribing.

For the orthographer, the world *was* geometry, as both text and drawing. All orthography, written or drawn, was a form of "linear graphism": a technics in which thought was structured by rule-bound lines with beginnings and ends. Orthography produced a framework for conceptual

exactitude and brought the notion of literacy into the world, because within any orthographic system, one must learn to read its meanings by way of syntactical rules and conventions. Orthographic gestures brought fundamentally new objects and objectives into the world.

Orthographic reasoning transformed a preconceptual visual world of mythical markings, always arranged in a non-linear, associative fashion, into linear depictions of the world. In a very real, practical way, “history” and orthography were coemergent, not simply because texts and lines allowed for the recording and archiving of events but more profoundly because the character and speed of that recording and archiving capacity produced a historical sensibility in which the past was tied to the future. “Writing consciousness should be referred to as *historical consciousness* . . . for it is not as if there were a historical consciousness capable of expressing itself in various codes, writing being one of them; rather writing, this linear alignment of signs, made historical consciousness possible.”¹⁰

10. Vilém Flusser, *Does Writing Have a Future?*, trans. Nancy Ann Roth (Minneapolis: University of Minnesota Press, 2011), 7.

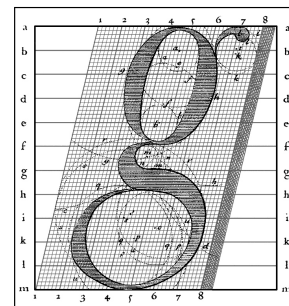
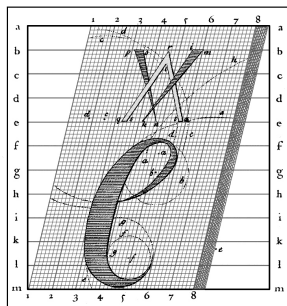
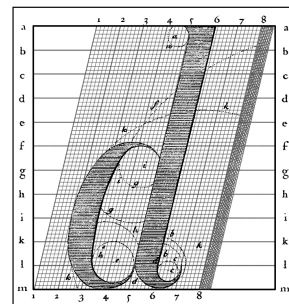
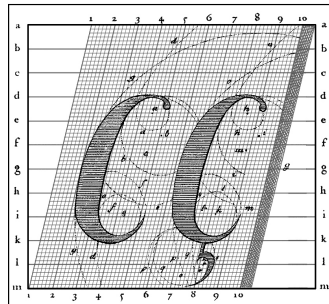
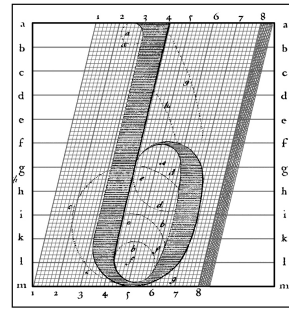
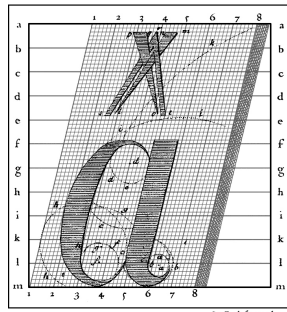
11. Leroi-Gourhan, *Gesture and Speech*, 210.

There was a quiet tension within orthography between two competing visions of the world. In the first vision (alphanumeric handwriting), geometric gestures structured by “the device of linearity” represented the audible and phonetic world, thus placing speech and text at the center of thought: “Written language, phoneticized and linear in space, becomes completely subordinated to spoken language, which is phonetic and linear in time. . . . The whole of [the] human linguistic apparatus becomes a single instrument for expressing and preserving thought.”¹¹

In the second vision (orthographic drawing), geometric gestures structured by the laws of scale and proportion represented the silence of lived spatial experience, thus placing form and materiality at the center of thought. In other words, we find a rupture near the birth of orthography, within geometry itself, between speech and silence, text and architecture. Drawing (like musical notation) emerged as a kind of nonalphabetic orthography – a writing of space and form – while writing itself progressed as a kind of alphabetic drawing, in which ideal geometries were pieced together to form alphanumeric characters.

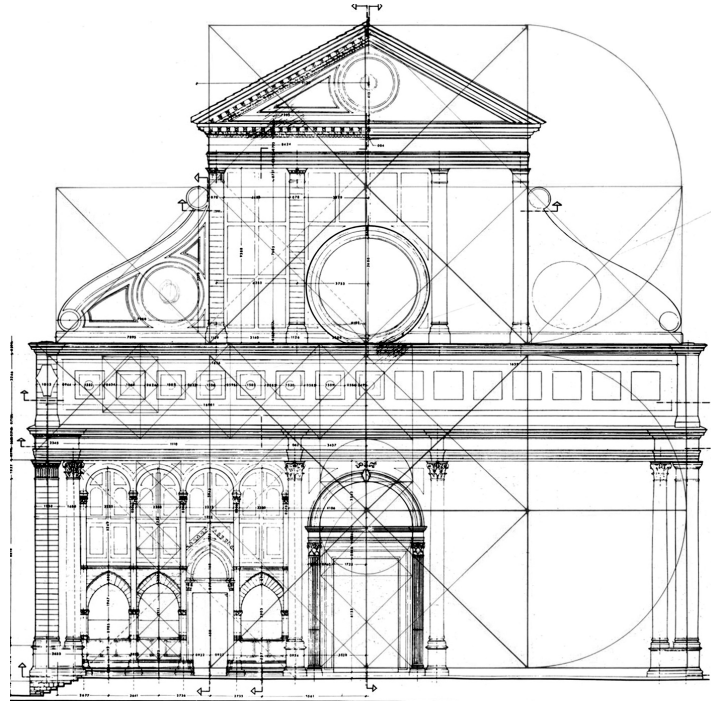
If we reflect back on architecture’s orthographic past, we can see that it contained two forms of historical consciousness simultaneously, resonating with one another across time: the first belonging to the written texts of architectural treatises, manifestos, and architectural history; the second belonging to drawn lines of architectural orthography. In other words,

The construction of oblique letters for the Romain du roi (King's roman), one of the first mathematically defined typefaces, commissioned in 1692 by Louis XIV for exclusive use by the Imprimerie royale.



although there is a historical sensibility conveyed in the texts of architectural history and theory – and a crucial one – it is a sensibility that nonetheless remains thoroughly discursive; it belongs to the textual side of orthography. Architectural orthography, on the other hand, contained within itself a historical sensibility that, because it was essentially pre- or extradiscursive, sat on an altogether different register, constituting a silent form of communication within and between drawings themselves. It was a sensibility that resided in the technical substrate of architectural intuition, in hand-mechanical gestures that, although they changed over time, remained relatively stable. Like textual grammars and syntaxes, drawing's rules and conventions developed and changed rather slowly; orthography was defined far more by an adherence to tradition (as technical memory) than by any rejection of it.

Santa Maria Novella, Florence. Facade geometries.

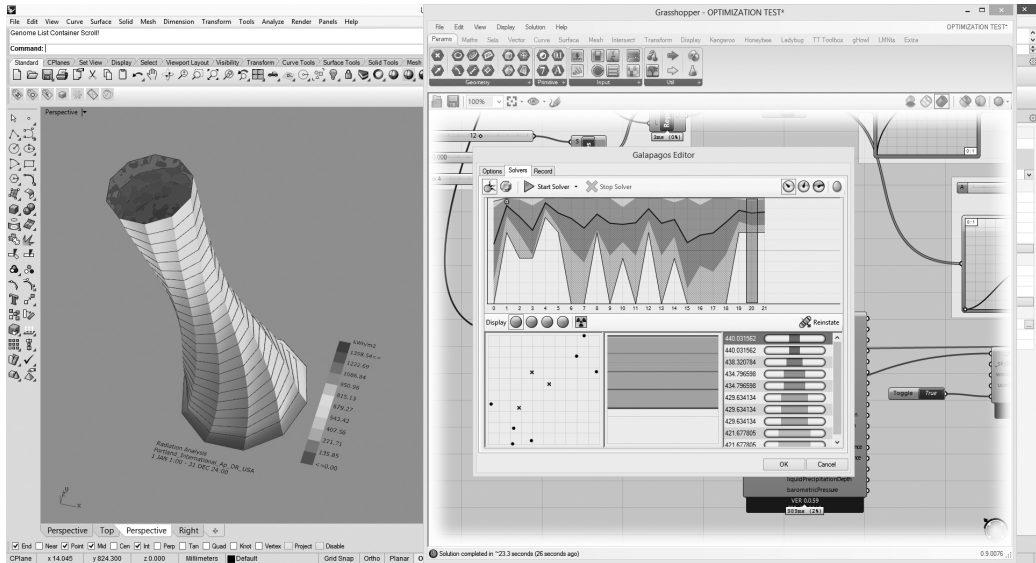
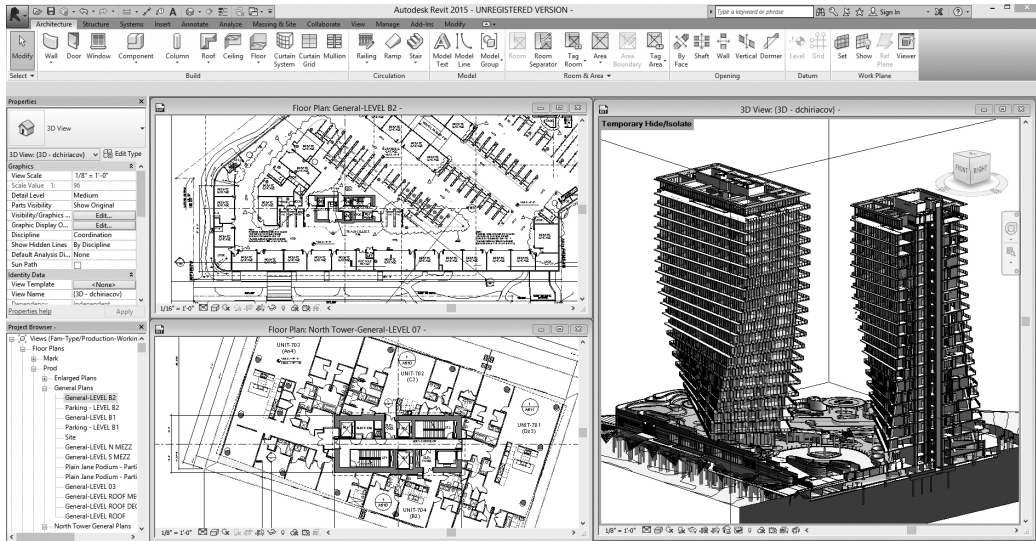


This correspondence between past and present, embedded in the technics of the orthographic drawing, established a deep connection between architectural experimentation and historical reasoning. In orthography, all future architecture was “drawn out from” architecture’s past – this is the logic of the precedent, which carried in its technical-gestural structure the geometric inheritance of past instances of order, proportion, symbolic expression, and so on.¹² Thus the act of drawing was always an act of drawing the historical present, and the drawing itself (in its labor time) was a “stage” of history – not the textual-phonetic history of historians but rather the silent tectonic history of architecture past.

The fact that for many thousands of years prior to the emergence of orthographic writing time was conceived of as a circle or cycle is proof that we are not born thinking linearly or historically.¹³ We trained this way of thinking into ourselves and our cultures by way of orthographic media: texts, drawings, and other forms of notation. It follows from this that cultures can train themselves *out* of linear, historical thinking – and we are currently doing just that, through our immersion in postorthographic surfaces. There’s no harm at all in this process, unless one underestimates its significance, or pretends that it isn’t actually happening.

12. To give a simple example, Le Corbusier was famously obsessed with Moisei Ginzburg’s Narkomfin Building, and reportedly even traced its plans while developing his conception of the Unité d’habitation. See Jean-Louis Cohen, *Le Corbusier and the Mystique of the USSR: Theories and Projects for Moscow, 1928–1936* (Princeton: Princeton University Press, 1992), 23.

13. “Primitive thought appears to take place within a temporal and spatial setting which is continually open to revision. . . . The fact that verbal language is coordinated freely with graphic figurative representation is undoubtedly one of the reasons for this kind of thinking. . . . The thinking of agricultural peoples is organized in both time and space from an initial point of reference – *omphalos* – round which the heavens gravitate and from which distances are ordered. The thinking of pre-alphabetic antiquity was radial, like the body of a sea urchin or the starfish.” Leroi-Gourhan, *Gesture and Speech*, 211.



Galapagos form optimization fit-
ness test in Grasshopper/Rhino.
Top: Autodesk Revit image-model
and simulated orthography.

Postorthography: In Real Time

If the world of the orthographer was simultaneously a text and a drawing, the world of the postorthographer is simultaneously an image and a model – an *electrical* image and an *electrical* model, signally mapped onto one another. Because all signalization requires the materialization of a statistically managed signal-to-noise ratio, all postorthographic image-models are probabilistic in their underlying logic.

Put in the most basic terms: if orthography was predicated on linear historical time, materialized in texts, drawings, and mechanical clocks, postorthographic technical systems now enmesh our work in “real time,” materialized in signals and image-models. Unlike historical time, which was predicated on technical regimes and gestures that continually related present and future to the past, real time relates the present to all possible futures at once (or at least as many as can be recorded and computed). Real time is the time of statistical thought, in which futures knowable and unknowable are posed simultaneously, some more calculably probable than others, but all possible. This probabilistic conception of time is fundamentally different from the linear, mechanical conception that structured orthography.¹⁴

Our models contain *simulations* of all possible future drawings. Using the “Make2D” command is not at all the same as drawing an orthographic plan. What we see on post-orthographic surfaces is simulated representation – electrical simulations of the orthographic formats that once represented the world. But unlike drawing, imaging does not want to be a representation of the world, it wants to be a presentation of the world – an automatic and perceptually up-to-date, real-time model of the world.

Models are images that “refresh” at a speed anterior to perception, and just as we no longer write but instead *process words* (by manipulating the electrical signals that govern simulated alphanumeric text on screens), we also no longer draw but instead process images. Images do not and cannot make drawings; they can only make more images, some of which we “print” by electromechanically depositing material (ink, starch, plastic, concrete, etc.) with a speed and precision unimaginable to any orthographer.

The always-present experience of all calculably possible future states – which is the logic of real-time modeling – is a very different imaginative framework than the orthographic imagination, which always drew on (traced, overlaid, re-presented) the past to “project” the future. We see this difference

14. See John Harwood and John May, “If We Wake Up to Find We Have Been Too Well-Trained,” in *Architecture Is All Over*, ed. Esther Choi and Marrikka Trotter (New York: Columbia Books on Architecture and the City, forthcoming 2017).

15. See John May, "Under Present Conditions Our Dullness Will Intensify," *Project 3* (Spring 2014); and Zeynep Çelik Alexander, "Neo-naturalism," *Log 31* (Spring/Summer 2014): 23–30.

16. Seen in this way, the CCA's "Archaeology of the Digital" project might equally be understood as a genealogy of the last orthographers – a generalized biography of an orthographic consciousness struggling to persist within a technics that had no use for it, and for which it in turn had no language, as it searched to resolve its previous world with this new technics that had completely destabilized its sense of reality.

17. For example, again see Jacob, "Drawing in a Post-digital Age," or *Log 31: New Ancients*, ed. Dora Epstein Jones and Bryony Roberts (Spring/Summer 2014).

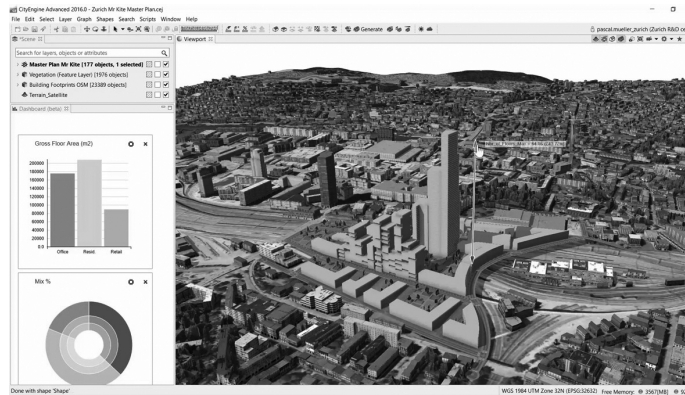
in the kinds of evidence that are now used to justify architectural form. If the graphic language of historical precedent was once used to legitimize architectural objects, we now use the imagery and language of real-time data: images of performance, efficiency, fidelity, and control.¹⁵

It might be imagined that this technical succession was a purely negative event – the erasure of one set of routines and gestures by another. But in hindsight we can now recognize, in the transition from orthography to postorthography, the emergence of a sensibility that can only be described as a positive phenomenon. Can we now finally say what it has meant for architecture to use the word *digital* (or now, *postdigital*)? It has meant, and still means, *pseudorthography*. Pseudorthography is not at all "fake" but instead indicates the residual psychology of orthography laboring in the absence of its own technical-gestural basis – a pathology in which *familiarity*, that crucial element of comprehension, is preserved as a coping mechanism in the face of unfamiliar conditions.¹⁶

Postorthography is thus a condition in which our thought and imagination are strung between two competing forces, one waxing, the other waning. On one side, we struggle to retain whatever remnants of orthography we can still remember – line weight, precedent, tectonics. To the extent that this mentality imagines itself laboring over a drawing ("computer aided" or otherwise), to the extent that it imagines the act of drawing as *still possible*, we are in the presence of pseudorthography. Far from extinct, pseudorthography retains dominance over a current generation of younger practitioners who have recently and emphatically declared their allegiance to an imagined "culture of drawing."¹⁷ At the same time, we blissfully immerse ourselves in the telematic ubiquity of the present, producing our "drawings" in telematic image formats, and advertising ourselves on telematic social platforms whose technical structures bear no relation to drawing, and which want nothing more than to forget drawing, writing, and history in favor of real-time imagery.

Some architects imagine that drawings are still needed to build buildings, and that this indexical connection has preserved orthography as the solid center of our practices. But in a technical sense, we haven't used a drawing to build anything in decades. Everything is now built from simulated orthography (images), with its attendant forms of transmission, duplication, repetition, and instantaneous modification – all of which have coalesced into a form of telematic managerialism unknown to orthography.

Esri CityEngine, “3D Modeling Software for Urban Environments,” with “Computer Generated Architecture (CGA) shape grammars” and real-time Geographic Information Systems.



To be clear and blunt: images of drawings produced in computers are not drawings. Lines “drawn” by computers, or by the nostalgic hands of architectural minds whose very oxygen is sociotelematic imagery, can never again amount to a drawing. The psychological-gestural residue of orthography is rapidly disappearing from an architectural culture that is becoming ever-more indistinguishable from telematic life itself. The age of orthography has drawn to a close, Kittler’s own final words its epitaph: “Only that which can be switched, can be.”

Automation; or, The Politics of (Very) Large Numbers

The city was an *orthothesis*: an orthographic idea-object born of the continual interplay between writing and drawing. It was the shared geometric basis of those two technical gestures that served as a platform for the polis, where politics was a fluid field established between the discourse of written laws, constitutions, decrees, dissent, and the silence of drawn plans, sections, elevations, and surveys.

During the emergence of “digital architecture” – over the course of roughly the past three decades – architecture’s principal political debates surrounded the erasure of the city by something called urbanism. Out of these debates emerged the realization that the visible, physical, and material dimensions of collective life were ceding political primacy to its invisible, electrical, topological, and ecological aspects. Today we can declare that process complete.¹⁸ And so, while there is an everyday politics of urban life – a politics of protest and dissent – that must be enacted and preserved, it would nonetheless be a fallacy to see this everyday politics as the primary terrain of political *theorization*. The primary terrain is now imaging, which, by infusing itself into all of life, is driving us exponentially deeper into what Alain Desrosières has called

18. See Sanford Kwinter, *Requiem for the City at the End of the Millennium* (New York: Actar, 2010); or John May, “The Logic of the Managerial Surface,” *Praxis* 13 (2012).

19. Alain Desrosières, *The Politics of Large Numbers: A History of Statistical Reasoning*, trans. Camille Naish (Cambridge: Harvard University Press, 2002).

20. “The difference between walking and rolling, between the legs and the wheel, is basic to all mechanization.” Sigfried Giedion, *Mechanization Takes Command: A Contribution to Anonymous History* (New York: Oxford University Press, 1948), 47.

21. Flusser, *Does Writing Have a Future?*, 146.

22. See Carl Benedikt Frey and Michael A. Osborne, “The Future of Employment: How Susceptible Are Jobs to Computerisation?” *Technological Forecasting and Social Change* 114 (January 2017): 254–80.

the “politics of large numbers” (a full elaboration of which far exceeds the scope of this essay), where the managerial calculus of probabilities finds new forms of sociovisual expression every day.¹⁹

Imaging places the fact of *automation* at the center of our lives, but not in ways relatable to our historical traditions. The methods of automation that emerged during the age of orthography belonged to the technical logic of mechanization – the essence of which, we know from Sigfried Giedion, consists in “endless rotation” producing a geometric translation of energy and force.²⁰ During the later phases of that technical age, machines employed electricity only as a continuous source of rotational power. In signalization – understood broadly as the ongoing project of converting all of lived experience into discrete, measurable, calculable electrical charges (signals) – automation is released from the prison of endless rotation and moves into thinner realms, into the topological and electrical, in processes concealed from perception by their size and speed. Unlike machines, signalized apparatuses know only the logic of discretization, whose translation of force relies on an electrical communication among their parts. The two are conjunctive: mechanization aimed to automate manual labor, and signalization now aims to automate the mental processes that can be made to control automated manual processes (isn’t this what we mean today when we say “parametric”?).

The radical difference between imaging and previous forms of simulation is that what imaging simulates is not specific ideas or thoughts but rather *thinking itself*. All forms of signalized simulation proceed as though thinking is always (or always ought to be), at base, a kind of statistical seeing, wherein our vision of the world is always already a calculation of its possible states. But “simulation is a kind of caricature: it simplifies what is being imitated and exaggerates a few aspects of it.”²¹ Thus in signalization we are always confronted with the fact that simulated thinking is much faster than previous forms of thinking with respect to an expanding range of “non-routine mental activities.”²² To achieve this speed we make a simple exchange: we trade the historical consciousness of hand-mechanical orthography for the statistical consciousness of real-time image-models. In a deeply technical sense, we leave behind the time of historical thought, where all contemplation and reflection found a home. As it replaces orthographic consciousness, the technics of real-time production is removing the labor time in which

Workers on the first moving assembly line, at the Ford Highland Park plant, put V-shaped magnets on Model T flywheels to make one-half of the fly-wheel magneto, 1913.



architecture used to ruminate on the possibilities and consequences of its forms for life, eliminating all previous political and ethical questions from architectural reasoning. In other words, the so-called crisis of tectonics induced by computation is in fact a restructuring of all previous political, moral, and existential reasoning.

The electrical automation of postorthography is in no way “thoughtless.” It simply reformats acts of thinking, displacing them to different arenas. Automation has never been a simple matter of passing labor from humans to machines; it has always involved the enmeshment of consciousness and gestural habituation within processes that are internal neither to the organic nor to the machinic but instead reside within both categories simultaneously. It has always relied on deeply practical “theories of organic extension,” best understood through a “biological philosophy of technique.”²³ It has always involved, in other words, the concretization of technical objects, which are not objects at all but rather points of genesis at which thoughts and repetitive gestures codetermine one another, giving rise to new physiological processes and new lived experiences. Under the technical conditions of real time *signalization takes command*, and in so doing it organizes and initiates an exhaustive reformation of all previous thought and language whose result is an entirely new orientation toward the world.

23. Georges Canguilhem, “Machine and Organism,” trans. Mark Cohen and Randall Cherry, in *Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Zone Books, 1992), 61.

Telemasis

Insofar as the world wells up within us in secret and mostly unseen ways – through techniques and routines, through institutions and habits – our work now finds itself immersed in an immense cultural experiment called imaging. If our technicians are always pulled taut between life and thought, if they are a fact in the world while also being a vision of that world, then we should see as self-delusional any architectural culture that disregards the philosophical dimensions of its own technical practices.

What happens to the architectural mind when it stops pretending that images of drawings made by computers are drawings? When it finally admits that imaging is not drawing but is instead something that has already obliterated drawing? What happens when it stops pretending that databases are geometric objects? These are questions that, in general, architecture has scarcely begun to pose, in part because it has not yet cared to consider what an image really is. Architects devote so much effort to establishing their possible influence over culture (their so-called agency) that we forget to see culture's overwhelming influence *within us*, imagining that somehow, through amnesia or mental isolation, our practices can resist the culture of imaging in which all of life now either swims or drowns.

What, then, is an image in our time, if fully recognized *as an image*? It is our field of experimentation and our field of politics. It is the technical format in which experimental lives – lives consciously lived differently than our own – might one day find not only their form but possibly, hopefully, their political expression within a new statistical literacy capable of navigating the conditions of telematic culture. *The statistical time of imaging, and its relation to the disappearing historical time of orthography, contains the most pressing political questions facing contemporary architecture and urbanism.* If we continue to confuse these two technical time signatures – if we continue to think of images merely as more-efficient drawings, or as technical enhancements of orthographic life – we will continue to drift unknowingly in an ocean of simulations for which we have no compass or concepts. The longer we refuse to see our work and our screens as belonging to a larger culture of imaging, the longer we continue to confuse images with drawings, the more apolitical we become. Telematic images “form bundles that radiate from centers, the senders. . . . *Bundles* in Latin is *fasces*. The structure of a society governed by technical images is therefore fascist, not for any ideological reason but for technical reasons.”²⁴

24. Flusser, *Does Writing Have a Future?*, 61.

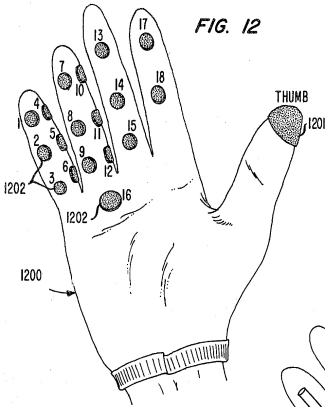


FIG. 12

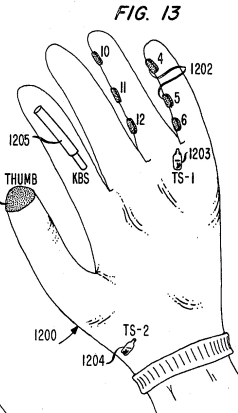


FIG. 13

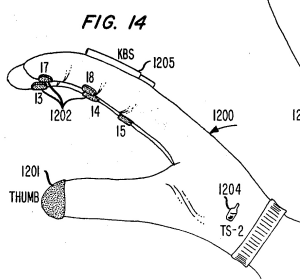


FIG. 14

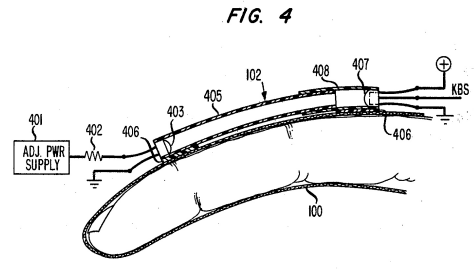


FIG. 4

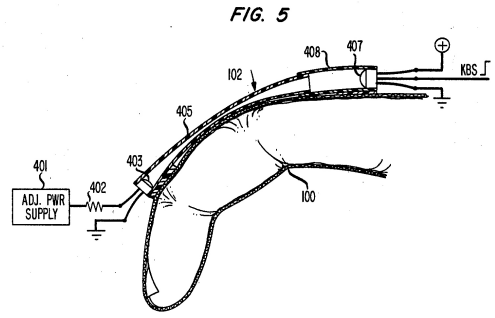


FIG. 5

Illustrations from Gary J. Grimes, US Patent 4414537 A for "Digital Data Entry Glove Interface Device," filed September 15, 1981, published November 8, 1981.

We should find ways of *becoming image* – of establishing meaningful expression within imaging itself, all the while acknowledging that our images no longer mean anything at all. The central paradox of our contemporary telematic consciousness: as imaging becomes the primary way in which we give meaning to our lives, the specific content of each individual image becomes less meaningful, bending toward meaningless. The content of an image (its "meaning") is an automated ratio between signal and noise. Any truly new telematic politics will no longer be a politics of the *content* of images but of the structure, composition, capacities, and limitations of imaging itself.²⁵

25. One need look no further than the Oval Office – which is no longer really a place but is increasingly simply an electrical feed – for definitive evidence that our present political field is defined by the telematic tendency of the structural time of imaging and messaging to eliminate the historical meaning of their specific content. If, as Jean Baudrillard pointed out, Ronald Reagan was our first truly televisual president, Donald Trump's is undoubtedly the first telematic presidency, in which the specific contents of incessant messaging are nothing more than simulations of ideas, and power resides in the ambiguities inherent in imaging itself.

Do we not already see in electrical images? When we see a thing, a scene, an experience, do we not already now see it *first* as transmissible? Telematic lives are statistical lives, constantly animated from a distance.

Going forward, architecture will effortlessly shed the historical consciousness of orthography. It cannot possibly hold. Touching, swiping, scrolling, selecting, filtering, cropping, resizing, zooming, channelizing, compressing, tagging, batching – in short, image processing – these are not the minor expressions of technical systems external to thought, or

26. Evans, "Translations from Drawing to Building," 15.

instrumentalizable techniques with known or controllable affects. They are the gestural basis of an entire consciousness that, for now, continues to refer to our practices as *architecture*, but which will soon loosen and forget that name if architecture stubbornly clings to "the pieties of essentialism and persistence" and confuses "longevity with profundity."²⁶

No more drawings, only images. No more orthography, only telematics. No more points, only addresses. No more lines, only associations. No more geometry, only statistics. No more syntax, only source code. No more tectonics, only commands. No more machines, only apparatuses. No more subjects, only users. No more stasis, only animation. No more research, only search. No more contemplation, only transmission. No more representation, only presentation. No more perception, only sensation. No more aesthetics, only physiology. No more history, only archiving. No more future, only probabilities. No more signification, only signalization.

Only now, in the electric light of lives lived entirely after orthography, are we finally becoming digital.

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