

Paradigms in the Poché

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The identification of potential paradigmatic examples within the history of representation is a crucial responsibility for architectural pedagogy, as one of the primary manners in which new architects are disciplined into “the discipline” is through representation. To continue to preach specific mediations based on outmoded conventions betrays a conservatism ignorant to the continual development of culture. At the same time, to jettison representational traditions simply because of a new technology is naive and irresponsible. More to the point, it is misplaced to equate a paradigm with a convention. Conventions are apparatuses; conjunctions of tools, codes, techniques, methods of interpretation, technologies, styles, social hierarchies, economies of access, etc. Paradigms of representation use apparatuses, but what matters more is when these changes alter aesthetic and conceptual paradigms. As architectural representation moves more and more into digital mediation, it is tantamount that we understand that the digital is not the wholesale paradigm shift some have preached or feared. What seems more apt, is that some conventions remain steady, some are discarded, and still others enter into strange lands where we are only beginning to understand what may be a paradigmatic transformation.

For purposes of a more focused discussion, the following essay will examine only one concept within the history of architectural representation. It may have its origins in plan and section drawings, but as with all conventions, the apparatus undergoes transformations. The starting point, the initial paradigmatic example, will be provided by the parchment plan of St. Peter’s produced by Donato Bramante in 1506.

PARADIGMS IN THE POCHE

So immersed are we in navigating the ever accelerating changes in modern mediation that it is difficult to imagine the impact earlier transformations made. Over the past few decades there have been multiple claims that the differences produced by digital technologies are driving a fundamental change in our contemporary culture. These changes are frequently bestowed the accolade/mantle of “paradigm shift.” Cultural critics hope that by identifying and analyzing these shifts they will not only gain a clearer historical understanding, but also be able to recognize contemporary developments that require reworking previous assumptions. Shifts in paradigms are often tied to changes in technological mediation, but as important as technology is, the argument of the following

essay is that it is with changes to epistemic, political, and aesthetic relations that a paradigmatic transformation becomes relevant. To explicate these events will require a closer attention to paradigms not as overarching theories, but as specific examples that adjust and redistribute cultural relationships.

The pursuit of identifying paradigm shifts ramped up in the wake of Thomas Kuhn’s *The Structure of Scientific Revolutions* (1962). One of the most thought provoking examinations of the question of paradigm is the interpretation put forward by Giorgio Agamben in the essay “What is a Paradigm?” (2008). Agamben identifies in Kuhn two modes of using the term “paradigm.” The first is the more common definition in which a paradigm describes the set of assumptions, values, models, methods that a specific discipline agrees upon either consciously or unconsciously.¹ This agreement sets the conditions for defining what qualifies as legitimate research, it defines the range of pressing problems, and is used to test the progress of new findings. But, Agamben also notices a secondary meaning of paradigm in Kuhn that is used less frequently, in fact it is acknowledged by Kuhn only in the postscript to the second edition of *The Structure of Scientific Revolutions*:

...the term ‘paradigm’ is used in two different senses. On the one hand, it stands for the entire constellation of beliefs, values, techniques, and so shared by the members of a given community. On the other, it denotes one sort of element in that constellation, the concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science.²

In this second case, a paradigm is not the overarching theory, it is instead a single specific example. It is the text, image, object, that is pointed at to make sensible specific concepts. It is not explained down to smaller parts nor theorized up to larger generalizations. It is the concrete instance that rearranges assumptions. Agamben finds this secondary sense of paradigm closest to Michel Foucault’s pursuit of “discursive structures” as an archeological project.³ A paradigm makes sensible a concept “beside” it (para).⁴ This adjacency between the visible and the sayable, between the aesthetic and the conceptual, is a crucial aspect for the second use of the term.⁵ Agamben stresses that this is not a part to whole or whole to part relation. It does not operate through induction from the particular to the general, nor deduction from the general to the particular. Paradigmatic examples work through analogy, from instance to instance, from part to part.⁶

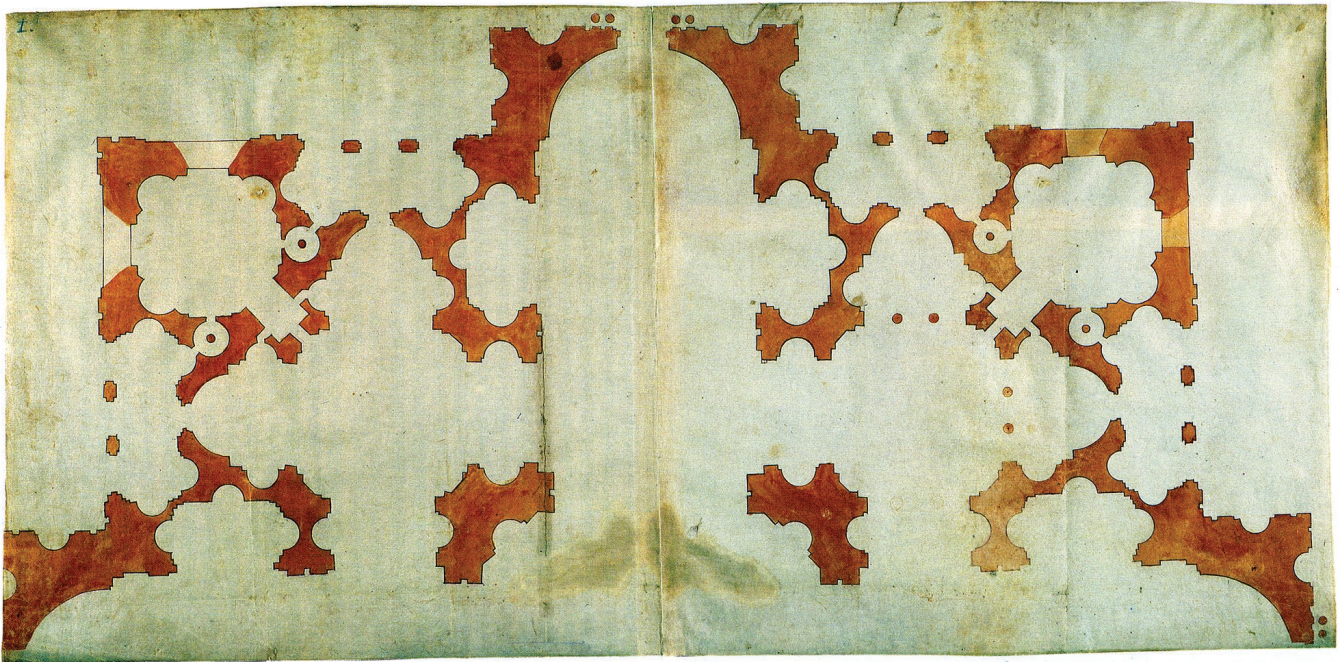


Figure 1. Donato Bramante, "Parchment Plan of St. Peter's," 1506.

The identification of potential paradigmatic examples within the history of representation is a crucial responsibility for architectural pedagogy, as one of the primary manners in which new architects are disciplined into "the discipline" is through representation. To continue to preach specific mediations based on outmoded conventions betrays a conservatism ignorant to the continual development of culture. At the same time, to jettison representational traditions simply because of a new technology is naive and irresponsible. More to the point, it is misplaced to equate a paradigm with a convention. Conventions are apparatuses; conjunctions of tools, codes, techniques, methods of interpretation, technologies, styles, social hierarchies, economies of access, etc.⁷ Paradigms of representation use apparatuses, (there is no non-technical mediation), but what matters more is when these changes alter aesthetic and conceptual paradigms.⁸ As architectural representation moves more and more into digital mediation, it is tantamount that we understand that the digital is not the wholesale paradigm shift some have preached or feared. What seems more apt, is that some conventions remain steady, some are discarded, and others enter into strange lands where we are only beginning to understand what may be a paradigmatic transformation.

For the purposes of a more focused discussion, the following essay will examine only one concept within the history of architectural representation. It may have its origins in plan and section drawings, but as with all conventions, the apparatus undergoes transformations. The starting point, the initial paradigmatic example, will be provided by the parchment plan of St. Peter's produced by Donato Bramante in 1506. For the remainder of the essay I will only refer to it as the *Parchment Plan*.

There are a number of things to be said initially regarding the aesthetics and concepts unleashed by the *Parchment Plan*. Firstly, the drawing is produced through a cut, a horizontal section parallel to the ground plane. This aspect is so ingrained in architectural thought that it is difficult to realize how novel this initially was. "Plan" drawings up to this point in time were primarily considered under the Vitruvian term *Ichnographia*, literally "the writing of a trace on the ground." The *ichnographia* as a drawing was more closely associated with the geometry that determines areas, boundaries, centers, and proportions. It has direct ties to surveying and the successful laying out of a building's foundation and structure. The cut of the *Parchment Plan* is not on the ground, it floats above, high enough to cut through niches and windows. Furthermore, this cutting plane is coincident with the plane of the paper upon which it is inscribed. In this drawing, walls are articulated through two graphic conventions; One, the continuity of a ruled black ink line tracing the intersection of vertical material surfaces with a horizontal abstract plane; Two, the area between these lines is rendered solid with a red ochre wash. This wash has been given the French term "poché."

Defining *poché* is elusive and elliptical. Among the associations we find; "Petit sac, pièce cousu(e) dans ou sur un vêtement et où l'on met les objets qu'on porte sur soi." or a "Small bag, sewn part in or on a garment and where one puts the objects that one carries on oneself."⁹ In other words, a pocket, a space that is between the outside and the inside. This "between-ness" of *poché* comes up in other definitions such as the "hidden" or the "uncountable."¹⁰ Leading to questions such as, what exactly does *poché*

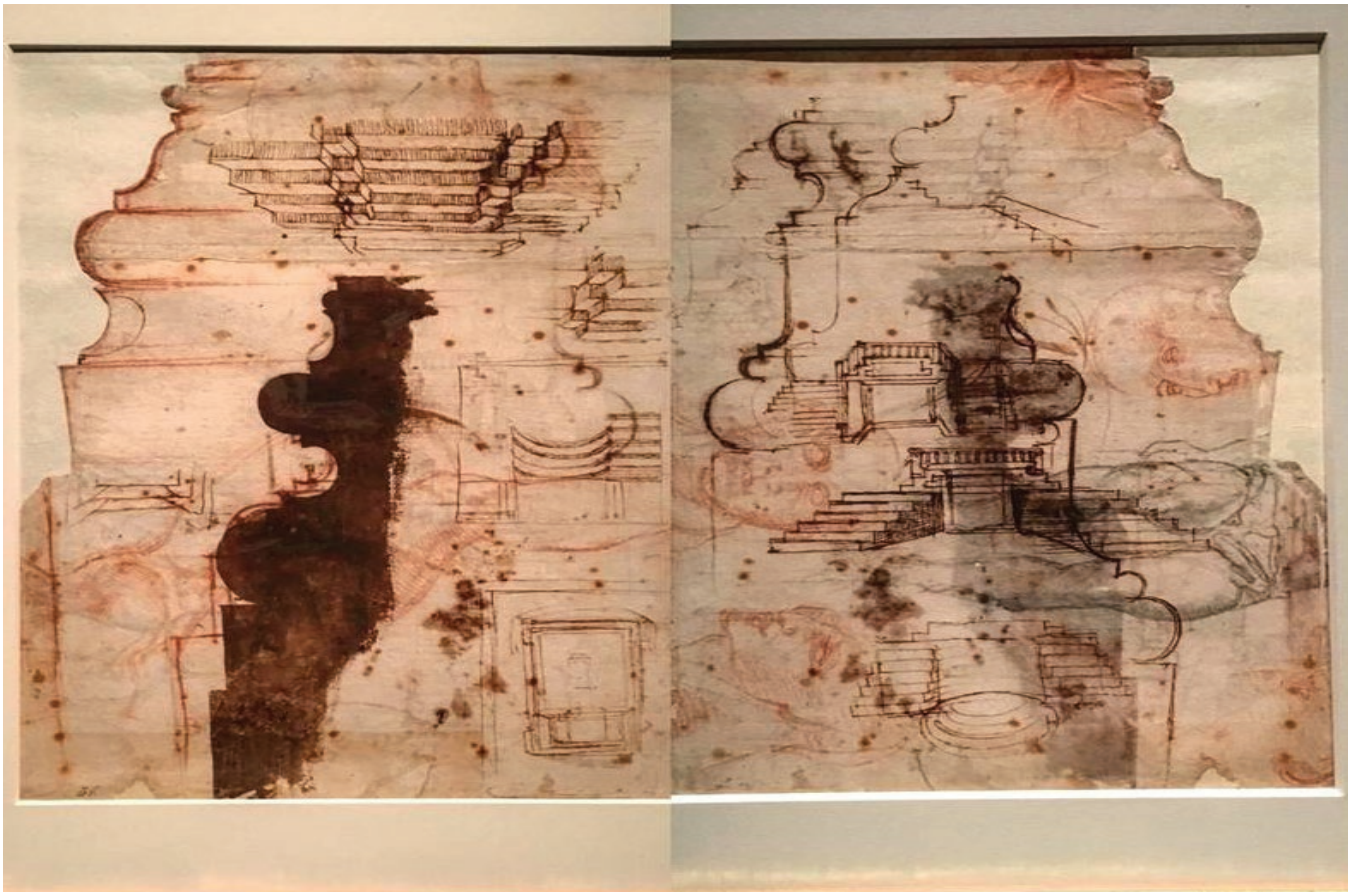


Figure 2. Michelangelo Buonarroti, "Laurentian Library Detail Recto & Verso," 1524 photo by author.

hide? What is it that is uncountable? Poché as a verb can also mean to "stencil in" to fill a given space.¹¹ This lends poché its graphic attributes and its affiliation with something akin to mechanical labor, an action outside of the primary design considerations of the architect because it is literally hidden in the building material behind the visible surfaces. This begins to suggest some of the implicit politics of poché in relation to labor and construction that will be discussed later. There is also the more rare association translated approximately as the "black eyes received from a violent blow."¹² This is oddly brutal, yet somehow resonates with the ways that poché participates in a blunt attack on vision. It releases an aesthetic of solid and void, and through this gives rise to the conceptual development of space as differentiated from mass. This last aspect is one of the key qualities that the *Parchment Plan* articulates so forcibly; space made intelligible through graphic abstraction.

One way to initially understand poché is to see it as giving a visual expression to the solidity of mass. Masonry walls are typically thick for large structures, especially those that aspire towards enclosing expansive volumes through vaults and domes. But, there is also something else apparent in the *Parchment Plan*. The mass of the walls and piers are articulated with niches, alcoves, piers and mouldings

aligned across empty voids. With the Parchment Plan, mass becomes articulated, it is formed; while simultaneously volume is likewise "formed" as a spatial idea. In this we have the emergence of the architectural concept where space becomes legible in relation to the mass that forms it, arguably one of the most significant conceptual developments in modern architecture.

Bramante did not invent poché ex nihilo. As with all paradigms, there are appropriations. Several precedents exist, but the concoction of three particular instances from the late 15th century seem to speak clearest to how the *Parchment Plan* performs its mutations. These are: the sciographia of the mason's profile drawings, the large section models for the presentation of architectural interiors, and the Renaissance anatomical drawings of the human body. All three examples come from extra-disciplinary fields, with ties to physical material; importantly, they were not ends in themselves, but notations aiding other goals. The molding drawings of stonemasons were used to construct iron or wood templates that would transfer profiles for stone stereotomy. Because of the reversibility regarding the single profile line, a technique of shading one side of the profile emerged to make sure that the side of the material mass was clearly translated to the template.¹³ These

drawings were termed *Sciographia*, which literally means shadow writing or shadow drawing. (There is a fascinating tale laid out primarily by Wolfgang Lotz regarding the substitution of *Sciographia* for *Scenographia* in 16th century translations of Vitruvius, thus giving the discipline its triad of plan, elevation, and section.)¹⁴ This profiling technique was still in practice in the Renaissance as can be seen in detail drawings for the base moldings of the Laurentian Library by Michelangelo. There is evidence of models being used in the design of architecture a far back as we care to look, but starting in the late 15th century, large sectional models were often built for presentation purposes, especially for major commissions such as St. Peter's. These were often focused on interior spaces, leaving the exterior to be demonstrated through facade models and rendered elevations. These models were constructed by wood workers and cabinet makers skilled in the carpentry techniques of planing, dados, and jointed panels. In order to allow a person's head to occupy the interior volume, the model would either be made in sections that could fit together, or be hinged to fold around the observer. In either case, this meant that for the moments prior to closing the model it was seen sectioned by a flat plane, the relationship between interior surfaces and exterior surfaces negotiated by a solid mass of material. The last precedent is found in the anatomical drawings of Leonardo da Vinci at the turn of the 16th century. The drawing technique did not attempt to pull the elements of the body apart, illustrating anatomy through a narrative of delaminating skin and tissue, instead they deployed an analytical measurability through the cut of a flat plane.¹⁵ This cut, coplanar with the drawing page allowed the measurement of the drawing through Euclidian geometry: the representation was rationalized. These drawings also revealed differences between inner and outer organizations, variations in skeletal thickness, and organs in spatial cavities; in other words, bodies within bodies.

These precedents exist within of the traditions of manual craft labor. When *poché* becomes paradigmatic for architectural imaging an often overlooked political transformation occurs. The physical labor of material construction is transformed into intellectual labor for the newly emerging discipline of architecture. In this, the abstract plane is no longer just an apparatus used to maintain and regulate dimension, it also becomes an aesthetic device making sensible the conceptual arguments of the architect, it becomes paradigmatic.

Consider the aesthetics of the *Parchment Plan* within this light. This representation is not a "design" drawing indexing the residue of procedural decisions, nor is it a construction drawing explicating means and methods for building. This drawing contains no attempt to specify material quality, assembly, or labor. Instead, the aesthetics of *poché* claim a finality regarding the design as idea. It is a presentation image. Many authors, from James Ackerman¹⁶ to Robin

Evans¹⁷ to Mario Carpo¹⁸ have argued for the emergence of the modern definition of the architect during the waning years of the 15th century. The architect came to be defined as one who works through representations, who could pass judgment regarding architecture through drawing rather than the experience of physical construction. The emphasis of these historians has been on projection, computation, and the procedural operations of geometry. Equally important though are the paradigmatic transformations in architectural imaging; *Poché* is part of this story. The building matter is now rendered through a graphic notation, material assembly is hidden, put in the pocket so to say. The *poché* drawing is concerned with the inner and outer surface, as spatial and formal articulations, not as visual elevations. The material between surfaces, how it is made, and who will be laboring is washed from the drawing. The more traditional *ichnographia* contained the traces of surveying and geometric layout. It was a drawing meant to aid the successful "planning" of the building. The paradigm of the *ichnographia* carries on as the basis for both construction documents and formal analysis. The *orthographia* was an elevation drawing that attempted to give a sense of visual order for the building's facade; its ornament, decoration, and iconic signification presented through visual resemblance. It's legacy is the rendering of visual images. The *Parchment Plan* is neither. This is a representation not intended for construction, nor for the visible qualities of its surfaces. It is an abstract image that makes sensible concepts of a formal/spatial order. It is rendered for disciplinary consumption, an imaging that requires training to correctly decipher. This expertise distances the profession of architecture from builder and layperson. The politics establishing disciplinary expertise is entangled with the politics concealing material labor, and this is made sensible through a shift in the aesthetics of the rendered image.

There is an interesting gap from the start of the 20th century till the 1960's where there is little mention of the term *poché*. The advent of frame construction coupled with standardized industrial elements opened pockets in wall and floor construction that would conceal a different order of labor; the mechanical, electrical, and plumbing systems of modern building. *Poché* as a term fell out of fashion due to its associations with masonry and the academic architecture of the *École des Beaux-Arts*. The return of the term to architectural discourse comes in a chapter on the tensions and frictions between "The Inside and the Outside," in *Complexity and Contradiction in Architecture*. Robert Venturi further expands *poché* through a number of examples explicating concepts such as "open residue," "detached lining," and "things inside things."¹⁹ In *Collage City*, Colin Rowe and Fred Koetter pick up Venturi's use and pull it to the urban scale, bringing along for the ride the figure/ground techniques of Nolli's *Map of Rome*.²⁰ These sources became fundamental for rethinking *poché* in the late 20th Century, allowing an identification of multiple potential paradigms within the history of architecture.

A partial list:

- **Wall as Sculptural Unity:** Michelangelo, Laurentian Library Vestibule, 1523-1571
- **Habitable Poché/ Hollow Wall/ Open Residue:** Francesco Borromini, Sant' Ivo alla Sapienza, 1642-1660
- **Detached Lining:** Bernardo Vittone, Santa Chiara at Bra, 1741-42
- **Public vs. Private:** Giambattista Nolli, Pianta Grande di Roma, 1736-1748
- **Internal vs. External Pure Form:** Étienne-Louis Boullée, Conical Cenotaph, 1784
- **Framed Collection of Figural Voids:** John Soane, Bank of England, 1794-1827
- **Programmatic Thresholds:** Charles Garnier, Paris Opera, 1861-1875
- **Spaces inside of Spaces:** OMA, Très Grand Bibliotheque, 1989
- **Objects inside of Objects:** Le Corbusier, Millowner's Association Building, 1951
- **Served/Servant:** Louis Kahn, Exeter Library, 1965-1971
- **Visually Accessible/ Physically Inaccessible:** SANAA, Toledo Glass Pavilion, 2006

The remainder of the essay will look at two further paradigmatic examples in the poché; its use in the École des Beaux-Arts and the Grand Bibliotheque of France competition entry by OMA in 1989.

Poché as an disciplinary term was first emphasized in the discourse and pedagogy of the École des Beaux-Arts in 19th century France as a convention for visually rendering the design parti. It could be understood as a “gestalt” type patterning enabling the reading of the primary ordering ideas. The dark and light of solid and void were evaluated as an organizational pattern of figure and ground. Poché was part of an aesthetic that produced the affect of finality. “A good plan sustained a depth and transparency achieved through the dessin techniques of *entourage*, *poché*, and *mosaïque* - graphic codes that made the plan legible to an architectural audience.”²¹ It is interesting to consider the company in this quotation. *Entourage* consists of furniture, plants, and people; things that architects render into a drawing to give it scale, program, or character. *Mosaïque* refers to the techniques of surface decoration, again a rendering technique put into a drawing to articulate scale, program, character. As a member of this set of imaging conventions, the Beaux-Arts poché is understood as a rendering technique, but one that operates in a different manner than the visual iconicity of the other two techniques. The dominant poché fill during this time period was a pink wash, established as a convention initially in 17th century French

military drawings.²² The color allowed the drawings to avoid confusion between cut masonry and visual surface rendering, not dissimilar from the profile shading that was used in medieval mason template drawings to control the reversibility of material and space. Emmanuel Brune's Palace Stair Section from 1863 uses a pink wash for all its poché. Outside is the illustration of a sky as blue wash, inside are the interior surfaces as ornate colorful decoration. The poché is literally between the entourage of the background and the mosaïque of the interior foreground. The pink hues “abstract out” the section cut toward the diagrammatic, referencing a world other than the visible surface of the proposed design. Poché in the Beaux-Arts is transformed into an aesthetic abstraction to be looked at as much as it is an organization that one decodes with disciplinary knowledge. As Sylvia Lavin suggests, poché is between the real and the ideal, it is virtual:

Despite this apparent vibrancy, one of the Ecole's main preoccupations was codification of all kinds, and the use of color was no exception. The traditional Beaux-Arts drawing relies on the color of antiquity, the color of building materials, the color of drawing pigments, and yet in keeping with the Ecole's injunction against the illusionism of perspective, the drawings eschew the temptations of *colore* through their very colorfulness. The only exception is in the treatment of *poche*, one of the greatly undervalued even if incidental inventions of the Ecole: *poche*, a terrain that is neither real nor ideal but virtual, was generally rendered by atmospheric washes. Like the cloud, the fleshy pinks of *poche* seem to come out of the conceptual blue to give these drawings neither verisimilitude nor idealism but rather effect.²³

Rendering drawings for effects in and of themselves accelerated with the boom of mechanical reproduction early in the 20th century. The dissemination of architectural images and discourse was no longer bound to the physical space of the academy and its institutional regulation, but could now move in other cultural formats where representational arguments became even more influential. Books, magazines, and journals, all opened a new space where images and text combined in often sharp juxtapositions. On these pages, “poché” filled walls became one of the dominant means to clearly articulate the primary design idea at the reduced scale and detail available to printing technology. Poché became a graphic expedient transforming drawings into diagrams.

The “five points” argument of Le Corbusier is in part as an attack on poché as descended from academic and vernacular traditions.²⁴ Concrete slab and column construction no longer required heavy masonry load bearing walls, thus no longer tied the spatial organization of the plan to the structural necessities of gravity. The free-plan allowed space to flow cleanly, clearly, freely between programs. Poché became an old idea tied to former paradigms of plan making and material

construction. The free-plan/frame tectonic also detached the representations of plan, elevation, and section into three independent mediations. The modern architect was now able to combine these representations to resolve complex programmatic and site constraints without being locked into repeating the same mass/plan on every floor.

One startling aspect of OMA's Trés Grand Bibliotheque (1989) competition entry is that it uses poché to critique Le Corbusier's critique of poché. The fill no longer references material, it now describes the removal of public access. The black filled areas are a "solid block of information, a repository of all forms of memory, books, optic discs, microfiches, computers. In this block, public spaces are defined as absences of the built, voids dug out of the mass of information."²⁵ This is used to produce a "free-section" of public space carving its way through the stacked "free-plans" of private space.²⁶ The dichotomy of public reading rooms (white) vs. private book stacks (black) provides a programmatic alibi for the use of poché as a blunt rendering graphic. In the development of this project OMA/Rem Koolhaas appropriated three aspects of paradigms that we have touched on in this essay: One, the ordered formation of space as independent from mass becomes one of spatial objects inside of and independent from a conceptually solid mass. Two, the diagrammatic abstraction of poché is accelerated toward an ambivalence between plan and section as a series of CAT-Scan like cuts. Three, the distinction of public/private becomes an ambiguous political argument between consumption, bureaucracy and public access. Is the public now on display, carving its desires freely through the storage mass of knowledge? Or is the public now in the service of a bureaucracy, limited to a habitable poché in the pockets left over, outside of information, under control?

One of the representational developments of note in recent years has been the emergence of photogrammetry, Lidar, and point-cloud models. These scans record the physical environment through points located in space, which when dense enough render out ghostly bodies. This technology has its origins within the surveying, astronomical, and medical imaging industries (another instance of extra-disciplinary importation). In these scans, points are spatial intersections of photons "cut" by material objects reflecting back to a loci. The abstraction of the flat plane is replaced by the abstractions of coordinate space. When interior and exterior spatial data is combined, the result is a model where the interior surfaces are independent from the exterior form (All digital models are in fact double, the interior modeled as a separate independent object from the exterior). As with all representations, there are political issues. Increasingly our environments are scanned through image capturing devices, doubling our world as data. All material information behind the scan becomes uncountable. These blind zones can be described as shadow drawings, sciographies invisible to the collection of the surface data. These dark areas could be considered pockets outside the scans of surveillance,

political in-betweens, plausible unmediated realities "between the real and the ideal." It is possible that within these gaps another paradigm of the poché is emerging, one that could hold potential for unpacking several aspects of contemporary mediation. It now becomes the responsibility of architectural discourse, to articulate the conceptual dimensions that become sensible through the aesthetics of this new paradigm.

ENDNOTES

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