Uncovering the Shape of Content: A Comparison of Three Libraries

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INTRODUCTION

The Gutenberg Press was a mid 15th century invention.[1] Renaissance Humanism developed during the 14th and 15th centuries.[2] Both of these events contributed greatly to the rise of the book and the cultural place it has held since. A recent Google research project estimates that the total number of unique books ever written is approximately 130 million, and counting. If we could read a book a day, and wished to read each of these books, it would take us 350,000 years to get through them all.[3] This Google research project brings to mind Borges' Library of Babel, which contains books made up of every possible letter configuration and therefore every book that could possible exist within the confines of our many languages.[4] Borges' description of the space of this library provides insights into a telling relationship between content and spatial organization. In the Library of Babel the space and its order mirrors the chaos implied by a continual reorganization of letters into their varying combinations; both understandable and nonsensical. The three libraries researched here, Boullée's Bibliothèque du Roi, Labrouste's Bibliothèque Sainte-Geneviéve, and OMA's Seattle Central Library, establish a similar relationship between content and form.

When Boullée was envisioning the Bibliothèque du Roi it was still conceivable to house all unique books ever written in a singular space. Of course, the medium of the book has exploded between the era of Boullée's first conceptions about the great Royal Library and the opening of the doors in Seattle. In this nearly 220 year span the book has further rooted itself as a pervasive and essential medium through which our cultural stories evolve, and has begun to share its territory with emergent digital media that some would suggest are currently at work reforming the book's cultural role. We have to keep the cultural dynamics involving this media in mind when discussing the approaches the three architects surveyed in this paper use in delineating their programmatic strategies. An examination of these libraries provides insights into modes of spatial organization that have evolved from indebtedness to a cosmological order, wherein the book is held up as a spiritual and cultural symbol, to a spatial order that views books as information and space as a mechanism to be used for their rapid retrieval.

Boullée – Bibliothèque du Roi

The Bibliothèque du Roi is an un-built library designed by Étienne-Louis Boullée in 1785 on the site of the existing courtyard of the Bibliothèque Nationale. Boullée had been involved with this project for a number of years. He comments in his *Essay on Art* that many of the previous proposals by other architects could not be built due to their expansive budgets.[5] Boullée argues that by using the existing courtyard space of the Bibliothèque Nationale, which he argued was underutilized at the time, the building's budget would be lowered significantly, allowing this much needed edifice to be built. Boullée proposed using the existing library to house a number of supplementary program spaces including archives. The image that most people now associate with this project is an enormous vaulted reading room, set atop four tiers of book stacks. The vaulting of this existing space created an "immense skylit basilica" in whose aisles the works of

individual authors are celebrated as a collective body of human knowledge and progress.[6] Within this enormous arena individuals are free to discuss their ideas, inspired by the great thinkers who preceded them. The end bays of the vault frame classical statues representing divinities; one of which was Minerva, the goddess of, among other things, poetry, music, craft, and wisdom.[7] It is clear that Boullée's intent is to create a singular space that houses all of humanity's significant literary works. In fact, collective human knowledge, in the form of books, literally becomes the building's foundation.

The space of Boullée's Royal Library goes well beyond the scale of the individual human being and instead represents a relationship between the perfect natural world and human beings as a collective.[9] In his work Boullée continually strives to uncover original conditions, nature as pure geometry. For Boullée, nature is "the sum total of all things in time and space; the entire physical universe".[10] Having desired to study painting early in his life, Boullée felt that the purpose of architecture was to "produce an expressive picture".[11] He believed architecture had advantages over painting and poetry in that
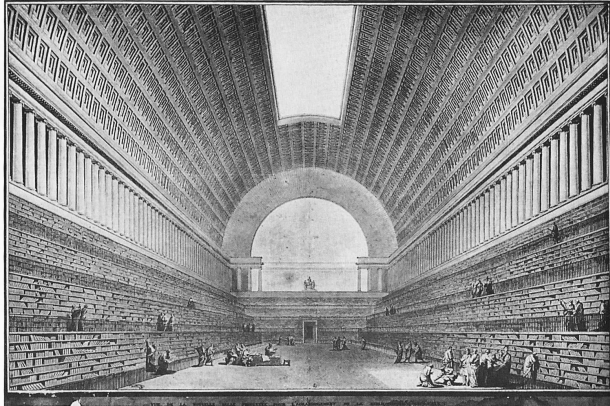

Figure 1.   Bibliotheque du Roi[8]

it had the capability of giving "concrete reality to images which a painting or poem could only evoke in the mind".[12] We know Boullée's work primarily through his drawn images and so equate it with a static picture of what even he conceded was a dynamic and evolutionary natural system.[13] But still, Boullée always seems to be striving for what is essential; forms and spaces which respect a nature that is conceived as perfect. Though Boullée did hold a dynamic view of the natural world as being always in flux, his architecture becomes an "ordered

immensity", conveying, through light and shadow, a microcosm of the universe.[14] Through the orchestration of light and shadow Boullée believed that the static stereotomic object, pure geometries that were primal remnants of the most basic principles of the natural world, would come to life and evoke human emotions, reconnecting us with our most primal beings. Therefore, when we ask questions about the function, organization, or content of the Bibliothèque du Roi we have to expand our notion of the word function to mean the relationship between human beings and nature through built form.[15] This will later become important when we compare this space to that of the Seattle Central Library.

Labrouste – Bibliotheque Sainte-Genevieve

The Bibliothèque Sainte-Geneviéve, designed between 1838-1839, was Henri Labrouste's first significant commission.[16] The building has been written about at length. Two particularly comprehensive studies of the library can be found in *The Book and the Building: Hugo's Theory of Architecture and Labrouste's Bibliothèque Sainte-Geneviéve* by Neil Levine and *Under the Sign of Reproduction* by Brian McLaren. The organizational strategies in Labrouste's library, as cited in the above writing, is largely inspired by the linear organization of the book and its ability to convey meaning through the unfolding of events in time and space.[17][18]

The exterior of the Bibliothèque Sainte-Geneviéve is inscribed with the names of authors that form the libraries principle collection. These names were originally painted red, giving them a two-dimensional quality, as if from the pages of an illuminated manuscript. Labrouste referred to the façade as a "monumental catalogue". This catalogue represented directly on the exterior the order and location of authors that one was to find on the interior. This inscription of author's names on the building's exterior provides a first reading of the building's contents. By literally reading the author's names one both identifies the building's program but also makes their first acquaintance with the authors themselves. As one enters the library they find themselves within a space described by Levine as a Narthex.[19] This space, supported by square fluted columns with green painted iron beams extending from them, presents itself as a garden at the edges of which stand busts of prominent historical figures. Above the figures the garden motif is

extended via a painted mural of trees. According to Levine, Labrouste wished to include a garden fore-court in the library but could not do so because of limitations of space on the exterior of the building.[20] This narthex acts as the exterior garden, a space of reflection before entering the principle functional space of the library itself, the reading room. The busts located at the perimeters of the space pres-ent an evolution of the authors two-dimensional names located on the building's façade, into three-dimensional effigies that help bring them to life. As one passes through this entry vestibule a bust of Johannes Guttenberg, flanked by a bust of Johann Fust and Peter Schoeffer appear before one ascends the stairs. The Guttenberg bust is given priority over the other two men, all of whom are considered responsible for inventing the printing press and the consequent rise of literacy and the book.
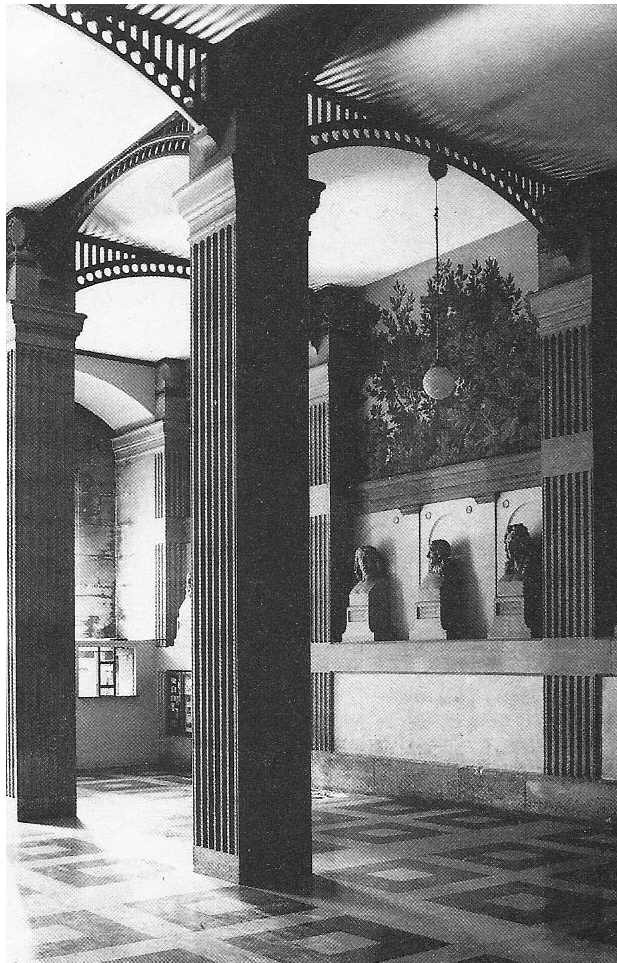
As one ascends the stairs to the reading room they are confronted with a large replica of the *School of Athens* painting by Raphael. In fact, this paint-ing is so large, and in such close proximity to the stairs that one might feel as though they are within it, or that their presence activates it in some way. Finally, the inhabitant enters the main reading room of the library and is exposed to the grand space whose decoration, according to Labrouste, were the books within.[22] Of course, this decoration was also the final connection to the authors themselves. First through a name, then an effigy, then exposure to their thoughts, these authors were meant to materi-alize. Throughout one's passage through the library they continually interact with symbols that give the spaces meaning. These symbols intend to tell a story in space and time of human intellectual progress; they are literary agents within the architecture it-self.[23] The result of this unfolding message is that the individual reader, sitting at one of the long li-brary tables, becomes an extension of the authors who surround them.

An organization that describes human accomplish-ment and progress, putting the inhabitant at the forefront of new evolution and change through hu-man reason, seems to be the programmatic intent in the Bibliothèque Sainte-Geneviéve. Labrouste imbeds his building with symbols and asks the in-habitant to traverse the linear evolution of human intellectual progress through this building as they would through the reading of a great book.
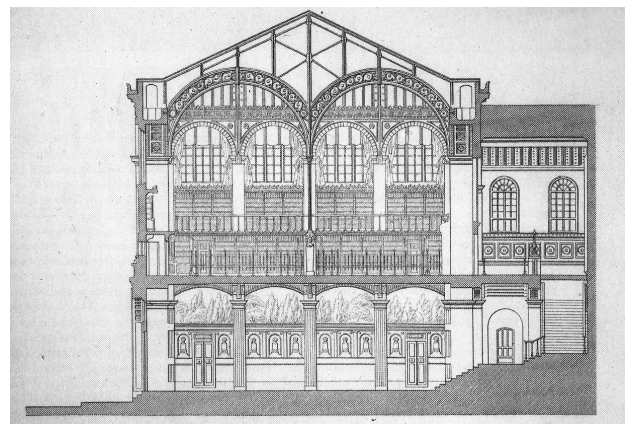

Figure 2. Sainte-Genevieve "Narthex"[21]

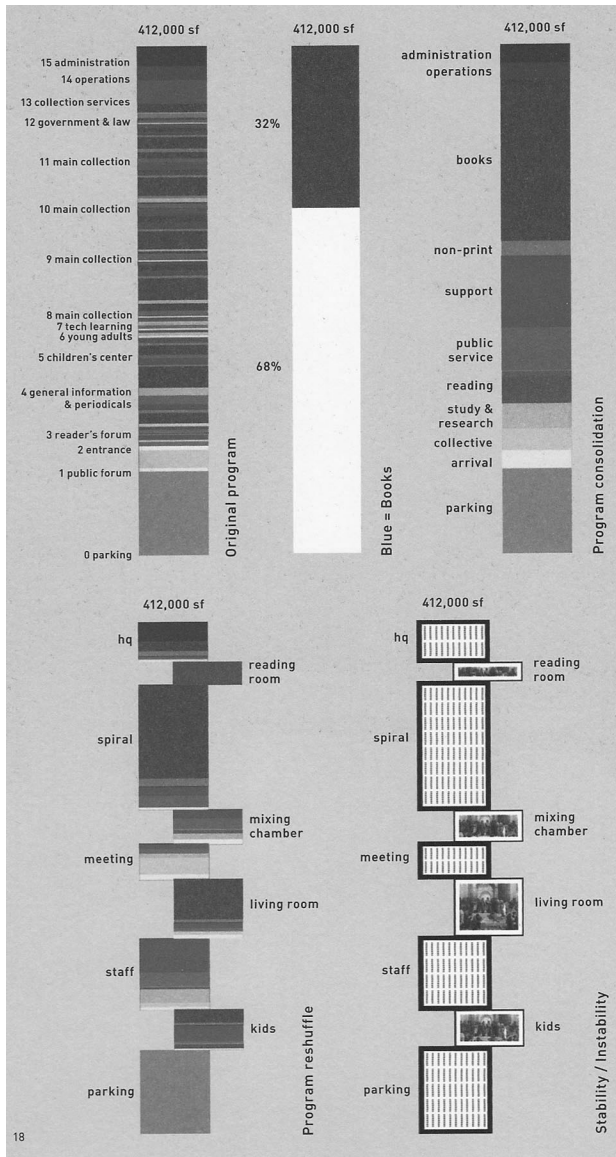Figure 3. Sainte-Genevieve Section[24]

Figure 4. Seattle Library Program Diagram[25]

OMA/LMN – Seattle Central Library

The Seattle Central Library opened its doors in May 2004. Located between Fourth and Fifth Avenues along Madison Street in downtown Seattle, the building seems to convulse as it rises from its site. The organizational strategy for the library has been well documented in print and on the web such that only the dominant organizational features need be mentioned here for reference. As a part of their programming effort, OMA's design team analyzed the services provided by the existing library, along with the mandates for the types of services the new li-

brary would need to provide. The architects accumulated these program spaces into a, now famous, program diagram (Figure 4) that labeled each service next to a colored space in a bar that represented the amount of space dedicated to each item. This process revealed a fragmented mix of program spaces interspersed amongst the library's individual floors.

With an apparent instinct toward clarity and order, the design team then grouped the like program elements together to provide the librarians with a sense of how much space was currently being dedicated to each element. Finally, invested in the idea that alleviating the burden of chaos should be a primary objective for this new building, the team uncovered five "stable" program elements, and four "unstable" ones.

The five stable program elements are the Parking Garage, the Staff Area, the Meeting Area, the Book Spiral, and the Administrative Headquarters; these constitute the readily definable program functions of the library. The unstable program elements are the Children's section, the Living Room, the Mixing Chamber, and the Reading Room; these spaces are less readily definable and therefore more free flowing. The stable program elements were then compartmentalized into enclosed volumes so that they would not eventually encroach on each other or on the unstable program areas. In other words, if growth were to occur within one of the stable program types it would have to be managed within
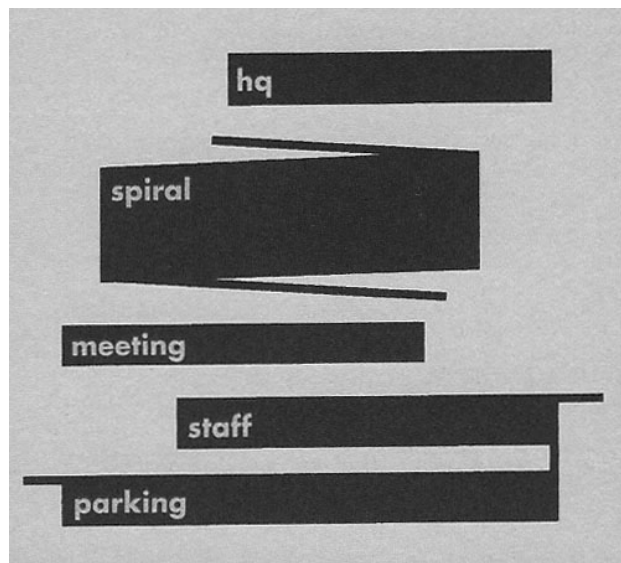
Figure 5. Seattle Library "Stable" Spaces[26]

the compartment itself. With limitations on the building footprint for each floor the design team then determined to elevate the compartmentalized spaces and use the interstitial spaces between the compartments, which they refer to as "platforms", to house the unstable program elements.[27]

Organization and order as a means to clear navigation, whether spatial or informational, seem to be paramount in the Seattle Central Library. Spatial divisions are driven by perceived programmatic distinctions. Spatial flows are defined by rational patterns of use or by alignment with rational organizational systems, such as Dewey Decimal. An attempt is made to provide extreme clarity of way finding by encapsulating program spaces, the individual content areas of the building, into logical and separated units. The architects unabashedly use large swaths of text and color to filter people through the building. This self described "hyper-rational" process seems committed to the idea that the answer to every problem lies within the question itself; as if all problems were simply data to be parsed, "combed", and reordered until the solution that seems self-evident decides to step forward and pronounce its rightful place in the colloquy of ideas.[28]

COMPARISONS OF ORGANIZATIONAL CONTENT

Egyptian architecture impressed Boullée with its use of elementary volumes, which conveyed an "image of immutability".[30] For Boullée, experiencing these spaces of pure and unadorned geometry situated one in contact with an innate understanding of the
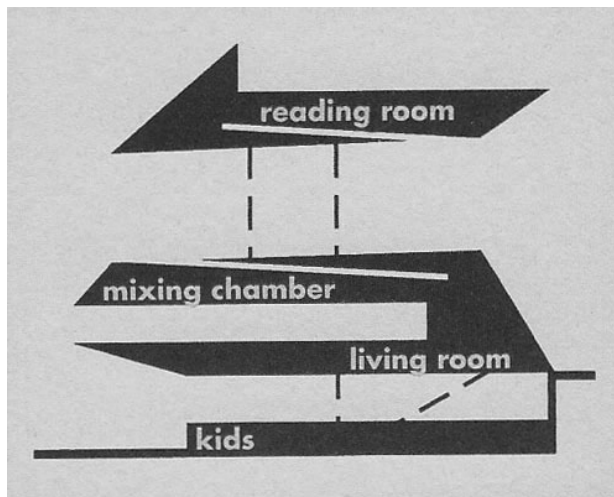

Figure 6. Seattle Library "Unstable" Spaces[29]

human condition within the natural world. This was less an intellectualization of the human condition than it was an evocation of an emotion that Boullée felt was rooted in certain forms in light and shadow.[31] While physical bodies, both human and celestial, form the basis of ideas about architectural form, space, and order for Boullée, Labrouste seems more driven by an analogue based on human constructs and the understanding of symbols.[32] Like the Royal Library, the Bibliothèque Sainte-Geneviéve is also meant to give one insight into the human condition. For Labrouste however, this insight comes from a linear sequence of symbol laden experience that results in the inhabitant becoming part of the story; the next link in the chain of human intellectual progress. The book, whose structure and position as the chief mechanism for future human progress, forms the basis for Labrouste's new organizational ideas about architecture.[33] OMA, in creating the Seattle Central Library, seems inspired by quantification and the machine for their organizational strategies. OMA is informed by an operational aesthetic that finds its inspiration in the workings of a library as a functional organism. This is a very different functional premise than that discussed earlier in relation to Boullée, in that it no longer concerns itself with the relationship between human beings and nature through built form. The narrative is dead as the architects seem to have little or no concern with telling a story about the human condition or helping individuals uncover their place in the cosmos through the experience of space. That is not to say that the building fails in this respect but merely that the intent does not seem to exist. The Seattle library trades the belief in formal perfections or specific, definable architectural relationships with nature, for a space that is symptomatic of use and need.

"For Boullée, the expression of character through form was the essence of architecture"; specific form and space types would yield specific emotional reactions.[34] The architect's job was to orchestrate these forms according to the buildings larger cultural function.[35] That Boullée believed that one could understand what constituted perfection and recreate it is a telling indication of the difference between a building like the Bibliothèque du Roi and the Seattle Central Library. For Boullée, the ideal exists as a cultural constant and it's the architect's job to re-present it. For OMA, if ideals exist, they are not unchanging, and so the larger question becomes about how form and space can satisfy the rational functional ideal

that exists at the moment of the building's creation. In the commentary that supplements his drawings, Boullée appeals for a "felt not a reasoned architecture".[36] One gets the sense that in Seattle, OMA is pleading for a reasoned, not a felt architecture.

In *Étienne-Louis and Eero* Wes Janz fittingly describes Boullée's concept of the role of architecture as "speaking through the appropriation and development of signs – signs of perfection, signs of death", and of course signs about humanity's place within the universe. If Boullée's library proposal is about "timelessness – time immemorial; infinite, cosmic time"[37] then OMAs library is about time today, time in flux, and the relentless change constantly initiated by time. OMA's proposal is not devoid of the presence of cosmic time, it simply does not seek it out. Boullée attempts to find a natural order and function of the universe to be represented in built form. OMA is unconcerned, at least outwardly, with an emotional connection to the space of the library. For them, the library is there to perform a functional task and any cultural or institutional statement that it might make becomes secondary. Where Boullée is attempting to establish cosmic connectedness through the existence of forms, symbols and spatial types that evoke a larger natural order, OMA is concerned with establishing a rational system within an informational context that is constantly in flux. In other words, the Seattle library does not seek to represent a world view in concrete form but instead initiates a process that accepts continual transformation. Similarly, Labrouste presents a world in motion in the Bibliothèque Sainte-Geneviéve, but the motion is that of continual lineal progress indicated through symbol and experienced as a linear path of circulation, allowing the inhabitant to become a part of this process through their research and studying.

The Book Spiral in the Seattle Central Library is a testament to OMA's indebtedness to function and their belief in the library as a purely operational mechanism. To organize books in this way is to accept them purely as containers of information, without attributing any spiritual status to them. Boullée, on the other hand, believed that books enclosed the authors "celestial soul" and in combination with the deceased author's effigies the readers would be provided with a deeper understanding of the written works.[38] Our age is culturally indebted to systems and a machine aesthetic to the extent that the organization of space based

on the books revelation of a celestial soul would seem misguided. The very act of spiraling through the book stacks reveals an organizational approach that places rationalism well above tradition.

That the volume of the interior would arise in part as a reference to Raphael's *School of Athens* painting is important to note and helps distinguish between the space making tactics of each architect. Boullée's space making is rooted in history and relies on historic precedent as both a guide for future action and as a symbol which provides meaning to the space itself. In other words, when one exists within the Bibliothèque du Roi, they exist within the space of the *School of Athens* painting and what it represents. The Bibliothèque Sainte-Geneviéve does not attempt to model itself after Raphael's great painting. Instead, the painting is another in a series of symbols that one encounters while ascending to the main reading room. Though used differently in each setting, both uses imply indebtedness to a cultural idea or tradition about knowledge and education. Conversely, the Seattle Central Library is rooted in a much different ideology; replacing the idea of tradition with the idea of operation. The idea that the new library should pay homage to what libraries have been in the past is no longer present in Seattle.

The forms and order of each building being discussed lends credence to the architect's views of the world. For Boullée, nature becomes the "sum total of all things in time and space; the entire physical universe".[39] A sum would indicate something that has been summed up, can be understood, and is static, even if only for a moment. Conversely, the Seattle Central Library shows indebtedness to process and operation, the building is merely a frozen indication of that which was yielded by the process at a particular juncture in history. All three approaches were radical in that they had to do less with what was common to library before them and more to do with conceptions about how a library should meet current cultural needs. Perhaps if Boullée's library were to speak it would say "this is the universe and humanities great place within it". If Labrouste's library spoke it would say "let me tell you a story of the progress of humanity and how you can be a part of it". And finally, if OMA's library spoke, it would say "this is one formal variant of the potential of a trillion universes, use it as you see fit and tomorrow it will be different".

CONCLUSION

Boullée's ideas about form, space, and order were part of a tradition that included architects like Alberti and Vitruvius who believed in the power of *natural* stereotomic forms such as the sphere and pyramid, when used correctly, to conjure essential human emotions.[40] Boullée's use of stereotomic forms was aligned with his "clear conception of the universe" as their purity and enormity helped provide, through architecture, an expression of the immense, eternal and infinite natural world.[41] Here exists an architecture based on an analogical relationship between architectural space, the cosmos and the place, emotion, and evolution of human beings within both. In the Bibliothèque du Roi, Boullée is attempting to establish the essential nature of the library for humanity. The Bibliothèque Sainte-Geneviéve is attempting to treat the library as a vehicle through which human beings can both understand their cultural place and expand upon it. Finally, the Seattle Central Library attempts to convey no cultural message, at least literally, but instead desires to be a machine, oiled and ready for use.

Where Boullée uses specific form and symbol to conjure meaning, Labrouste uses the linear interaction of inhabitants with symbols. OMA does not attempt to appropriate meaning at all and seems unconcerned with the building's relationship to its historic precedents. In many ways the Bibliothèque du Roi is to painting what Sainte-Geneviéve is to the book and Seattle's Central Library is to digital media. The Bibliothèque du Roi is cultural meaning contained as image. Sainte-Geneviéve is cultural meaning contained as symbolic experience. Seattle Central Library is cultural meaning dissected and revealed as information. Where Boullée uses light and shadow to conjure human emotions[42] Labrouste uses symbols and is actively moving toward a more literary tradition. In Seattle, the depth of shadow as an instrument to conjure emotion or a linear display of culturally engineered symbols disappears into the translucent neutrality of a space that becomes purely an instrument for extracting information.

ENDNOTES

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