The importance of diagrams in architecture as a field of cultural-political plasticity

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Abstract   The architectural diagram can be used as a device that blurs the distinction between subject and object, bringing forth tensions of looking in and through, of being in and out. Jacques Derrida, a French continental philosopher primarily interested in deconstruction, has notably theorized the use of the architectural diagram, and an important idea the Derrida has raised was that of différance. Différance, for Derrida, means not only to 'differ' but also to 'defer' the meaning if anything, endlessly, because it is never total or finished. This open process of meaning is an obvious fact of cultures since they are historical and changing. For Derrida, an architectural diagram subverts the dominant oppositions and hierarchies currently constitutive of the discourse, and can be modes of becoming an emergence of différance. Architectural diagrams in this sense can operate as an abstract machine that describes the power relations and the narratives of the city.

Operating from a place similar to that of writing, the diagram can be experimental in the sense that it can achieve emancipation and autonomy in the discipline, it can be anti-hierarchy, anti-form, anti-structure, and it can reveal clearly the power relations and mosaic of the city. The diagram as an abstract machine composed of these elements are activators that help trigger constructions that are neither objective or subjective, neither before theory nor after theory, neither conceptual or opportunist, the location of the diagram is in the inter-subjective, durational and operational field where meanings are formed and transformed interactively.

This thesis will outline the methods of achieving such a diagram, will analyze the current use of diagrams in architecture, outline the implications of which (history, trends, influences), and will aim to bring about a contemporary (in an Agamben sense of the word), autonomous place of abstraction where objective aspects of location (Buffalo, NY as test site for this thesis) combined with subjective experience will be achieved through compressing the GIS data acquired (objective aspects) with the subjective experience of the city (the perceptions of the people who live there), found by geo-referenced* data from the internet, as well as subjective maps used to narrate the city to outsiders (e.g., tourism maps).

*Georeferencing here means to associate something with locations in physical space

1.   Introduction

The problem that I sought to resolve with this thesis started with Rem Koolhaas's urging to shed the crippling shackles of critical theory and pick up a surfboard upon which to ride the shock waves of the new economy (capitalism). With this, Koolhaas is embracing capitalism, official architecture and the power relations it aims to produce and re-produce.

Deconstruction is anti-form, anti-hierarchy, anti-structure, which is the opposite of all that architecture stands for. Architecture that utilizes deconstruction can be a counter-space that carves out new cultural and urban realities against the forces in power. Perpetualization of power in capitalism occurs through the repetition of Bourgeois ideas, projections of commodity fetishism, consumerism, materialism, and class power. In this system, those who are well off obtain power. This system is an apparatus. In a capitalist development, in a disciplinary society, apparatuses create docile but "free" bodies that assume their identity and their "freedom" as subjects in their process of becoming a subject to the apparatus.

The challenge of the discourse of the diagram is to construct a discipline value when architecture has become an instrument to the apparatus. To do this, I considered that this diagram would be one that is an emergence of Derrida's difference, as well as one that utilizes Charles Jenck's ideas of contextual counterpoint. Contextual counterpoint, to Jencks, is to achieve neighborhood coherence with transforming continuity, to stress the use of a combination of architectural fragments in order to give memory to the city. Difference, for Derrida, means not only to differ but also to defer the meaning of anything, endlessly, because it is never total or finished, and this open process of meaning is an obvious fact of cultures since they are historical and changing. De Certeau writes that places and cities are saturated with signification and are reduced to this signification, and are, in the person's mind, compilations of stories and memories.

When large commissions and the embrace of capitalism are the only driving factor for architects, environments are constructed that serve no purpose other than to celebrate monopolies and to signify shopping. These environments further entrench the capitalist apparatus. Instead, architectural diagrams can account for the effects of culture on both how we use our senses to understand spatial constructs, and the contents of the memory base used for comparison. Like with Jakob Johann von Uexhull's Umwelt, the mapping of environmental differences and ideas of perception in species is important to understanding the species. This can be applied the same way to cities and places.

In order to achieve this goal, I began by completing a literature review that examined the theoretical foundation of architectural diagrams, and looking into how architects such as UNstudio, Bernard Tschumi, and Peter Eisenman have used diagrams in the architectural discourse.

I then did case studies of diagrams from a select number of architects and firms that were chosen after looking at many diagrams from different architects, and were decided upon based on their theoretical use. I analyzed eight diagrams per architect or firm using Edward Tufte's design parameters in order to illustrate or note the graphic, color, and text trends in each diagram.

The parameters were developed from a literature study of Edward Tufte's, Envisioning Information. These parameters helped define the overall trends in design favored by each architect or firm, and worked as an organizing principle to sort through the characteristics. The criteria used to analyze

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each of the architect's diagrams were created from the same criteria that Tufte explains throughout his book.

From this, I chose a case study for an experimental design of a diagram. I chose Archizoom because Archizoom attempted a radical representation of form in relationship to labor. The overall layout of the diagrams of No Stop City illustrated an urban condition governed by the minimum welfare necessary to guarantee the reproduction of those living and working in an urban field. Using Archizoom's No Stop City as an example, I compiled ethnographic data from Arc GIS and the internet. The data was presented in an abstract field of typeface letters and symbols. It was decided that the Archizoom style of diagram was not the best method for the representation of diagrams that worked as an emergence of difference and contextual counterpoint.

2. The Architectural Diagram

Architecture can be a representation of an intervening apparatus, or a diagram. The diagram has emerged as a necessary mechanism for the subject to control its object of knowledge, and has now infiltrated almost every aspect of architectural theory. It has been defined as both an end in itself and as art. Often noted is the paradoxical separation between the artist and the work in architecture, and because of this, much of the foundation of architectural theory is concerned with representation. With this, and from the writings of Walter Benjamin, we find that architectural drawings do not re-produce architecture, but rather, produce it in the first place. There are the notions of some that diagrams are architectural drawings such as plans, sections or elevation, but for some, the architectural diagram is a device that works as activators that help trigger constructions that are neither objective or subjective, neither before theory nor after theory, neither conceptual or opportunist. A modern mode of representation, the genius of the diagram is its discursive code that organizes reality so that it is both visible and usable. From this, we find that the location of this particular diagram type is in the inter-subjective, durational and operational field where meanings are formed and transformed interactively.

For example, to Peter Eisenman, "the diagram works to blur the relationship between the desiring subject – the design, the user – and the desired object in order to move both subject and object towards an unmotivated condition," (Eisenman, 211). We find that with Eisenman's use of the diagram, the diagram can be a means of achieving a place of "writing" that is unmotivated and separate from the design or user, and how a diagram can operate between form and word. What is important to Eisenman is that architecture as a discipline and social project suspends and re-arranges ruling oppositions and hierarchies currently in operation, which suggests that design projects and processes cannot simply be created from their social and intellectual contexts, but must transform them. This makes the diagram a fundamentally disciplinary, performative (tool of the virtual), – rather than representational – device that situates on and undoes specific institutional and discursive oppositions through suggesting an alternative mode of repetition that envisions repetition as the production of difference. Again, the possibility of the diagram operating in such a way occurs "not by representing a particular condition, but by subverting dominant oppositions and hierarchies currently constitutive of the discourse," (Somol, 90). Diagrams can open new, virtual territories for practice, and for Somol, the emergence of this "other world" is exactly what the diagram diagrams. This process is seen in Eisenman's process automatism and in Koolhaas's statistical research in that they are attempts to replace design with the diagram.

"OMA's analytical explorations using diagrams do not investigate the state of mind of individual artists/architects but disclose the unconscious, invisible structures of contemporary society, and make 'systematic idealization, a spontaneous overestimation of the present' possible," (OMA, 229). From Koolhaas's statistical research, we find that diagrams can be used to describe power relationships in the city, and begin to map their urban, spatial, and architectural implications. New tools such as sensing, mapping, modeling and communication technologies are creating for more complex diagrams of the city. Static diagrammatic tools are being replaced with new tools that allow for the tracing of previously invisible social and ecological processes. "Contemporary GIS and GPS applications alter the genetic code of urban diagrams, shifting from mapping flows in the space of extension to the space of relationship, mapping the space and time in between things, events, people or places," (Shane, 85). GIS and GPS power the digital diagrams of the city, and new hybrid diagrams that incorporate the shifting, irrational desires of the modern city can be of use to designers

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in clarifying the city's structure and to help us see what makes up the city, its complexity. Diagrams can also represent the collective shared maps of the city. The architects who use diagrams now refer to topologies and topographies, and prefer to map than draw, and track movements and events in space. A diagram takes all of this information and compresses the lot of it into a small space. Occasionally, diagrams such as these have the clarity that can arouse public debate and action.

The purpose of this can be seen in Gilles Deleuze's notion of the diagram, which is a "spatiotemporal abstract map/machine and a 'multiplicity' which 'refuses every formal distinction between a content and an expression," (Garcia, 24). In this sense, a diagram differs from drawings in that it represents abstractions symbolically. Diagrams have been used as ways of engaging and researching architectural truths, and like process-based and conceptual works of art and architecture, can be highly obscure, esoteric, and personal. Also, as a result of digital technological advances, the current techniques of architectural diagrams are a revolution in the media and projection systems of architecture. The clearest example of this shift would be "the generation of digital topographies that include in their modeling 'data' that would normally be separately diagrammed – the flows of traffic, changes in climate, orientation, existing settlement, demographic trends, and the like," (Vidler, 61).

3. The Architectural Diagram as Abstract Machine

In order to understand how exactly a diagram in architecture can operate as an abstract machine, one must first understand the theoretical foundation that underlies it. To begin with, the abstract machine works to interrupt the flows of the apparatus. An apparatus is a diverse set that includes virtually anything under the same heading: discourses, institutions, buildings, laws, police measures, philosophical propositions, and so on, the apparatus itself is the network that is established between these elements. The apparatus has a concrete strategic function, is always located in a power relation, and as such, appears at the intersection of power relations and the relations of knowledge, (Agamben, 3). Devoid of any foundation in being, the apparatus realizes an activity of governance with an implied process of producing its subject. Defining the apparatus's subject occurs within the set of practices, bodies of knowledge, measures, and institutions that aim to manage, govern, control, and orient the behaviors, gestures, and thoughts of human beings. Agamben, through his work What is an Apparatus? proposes that there is a general and massive partitioning of beings into two large groups or classes: living beings (or substances) and apparatuses in which living beings are incessantly captured,"(Agamben, 13). An apparatus can be referred to anything that has in some way the capacity to capture, orient, determine, intercept, model, control, or secure the gestures, behaviors, opinions, or discourses of living beings. "Not only, therefore, prisons, madhouses, the panopticon, schools, confession, factories, disciplines, juridical measures, and so forth (whose connection with power is in a certain sense evident), but also the pen, writing, literature, philosophy, agriculture, cigarettes, navigation, computers, cellular telephones, and – why not – language itself, which is perhaps the most ancient of apparatuses – on in which thousands and thousands of years ago a primate inadvertently let himself be captured, probably without realizing the consequences he was about to face," (Agamben, 14). The extreme phase of capitalist development in which we live is a massive accumulation and proliferation of apparatuses. Foucault has shown how in a capitalist development, in a disciplinary society, apparatuses create docile but "free" bodies that assume their identity and their "freedom" as subjects in their process of becoming a subject to the apparatus. "This, above all, is the source of the peculiar uneasiness of power precisely during an era in which it confronts the most docile and cowardly social body that has ever existed in human history. It is only an apparent paradox that the harmless citizen of postindustrial democracies who readily does everything he or she is asked to do, inasmuch as he leaves his everyday gestures and his health, his amusements and his occupations, his diet and his desires, to be commanded and controlled in the smallest detail by apparatuses, is also considered by power – perhaps precisely because of this – as a potential terrorist," (Agamben, 22-23).

Like Agamben, Derrida seeks to find a way to dismantle apparatuses. In doing so, he develops a form of semiotic analysis known as deconstruction. Derrida's main ideas were that the structure of language produces reality, and reality is framed by language. Any sense of our world is determined by the rules that underlie language itself, and rather than the individual being at the center of meaning, it is the structure itself that gives meaning. This structure allows meaning to occur. Derrida takes this idea of the structure and puts it through intellectual rigor. He argues that until the pervasive presence of structuralism, the history of philosophy was the continuous constitution of the central system. From the early Christian era to the 18th century, we had a single god as the center of all things that gave meaning to life. God gave meaning, and was the cause and center of everything. During the 18th century, the human subject becomes the center of the structure, and god becomes marginal. Thought and rationality now becomes the center. In the late 19th century, rationality is kicked out of the center, and Freudian's theory of the subconscious becomes the center. According to Freud, "we are not

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creatures of thought; instead, we are driven by irrational, subconscious desires," (Derrida, 73).

Structure, Sign and Play was written by Derrida in order to deconstruct the center. In this, Derrida's argument focuses on the fact that every system contains its own undoing, and it's "rupture" emerges only in relation to other un-doings of other structures. Ferdinand de Saussure's work allows us to see the fact that there is a center, and Derrida's work allows us to see that the center itself is a construct. We now find that the center is a construct rather than something that is an absolute truth. The center makes the system work, holds it together, and gives the system a full presence. To Derrida, the center is the transcendental signifier, or a signifier that transcends and has no equivalence to anything else (e.g. god). The transcendental signifier is the center, but at the same time is outside of it because it gives everything it's meaning. For example, in some religions you cannot represent or write the word god because he is so beyond everything. Thus, the transcendental signifier is the cause of the system but also escapes the system. We find that western philosophy is based on a fundamental error, which is the belief and search for the transcendental signifier (God, reason, science, humanity, truth, self, etc.), which must be understood without reference to other signifiers.

This is what makes the center and the transcendental signifier coherent for Derrida. It gives the system meaning, but also lies outside of it – it is a contradictory idea. This idea of the center holds the structure together and limits play. The center fixes, stabilizes, and controls. Derrida argued that anthropology began as a way for European societies to explain that they are the center of the world, and Europe in this argument is the center (ethnocentrism). When other cultures exist autonomously to Europe, then it challenges Europe as the center, and de-centers it in terms of anthropology. Claude Lévi-Strauss questions anthropology as a discipline, and his anthropological theories allow Derrida to argue this point of undoing the center.

Lévi-Strauss finds that in this fundamental binary opposition, there is a scandal. There is something that intrudes the binary oppositions in cultures – incest prohibition. This is fundamental to the evolution of any community. What he finds is that every single culture has the incest prohibition – it is a universal thing. Every single culture has a distinct and unique way of expressing this. Incest prohibition collapses the binary opposition of nature/culture. This is the heart of deconstruction at the philosophical level: to take binary opposites and see how they fall apart. To Plato, we have the difference between the world of Forms and the material world, and we cannot understand the material world without the world of forms. Although for Plato, the Forms are privileged over the world of material things, but since you cannot understand the world of forms without the world of the material, this destructs this binary.

The privileged term in the binary is privileged because it has presence and the binary can be seen as: presence/absence. Since you cannot have presence without absence, this collapses the binary. What is devalued is necessary to understand what is valued. Western philosophy is based on the presence of speech, which means it is logo-centric – privileging a presence. Speech and presence are privileged over absence and writing. Undoing this reveals how logo-centric the system is, and how western philosophy is based on a series of constructs. The moment you deconstruct these binaries, you bring them into play, and show that these are not absolute truths. These emerge within the structure of language itself, during the moment of history. The things being handed down are culturally constructed.

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Speech implies presence, and writing implies absence. Writing is a supplement to speech. Derrida shows the inconsistencies in these fundamental givens, and shows logical fallacies of these binary opposites. When you question these binaries, you put them into play. Once you deconstruct a structure by pointing out its inconsistencies, you put them into play. Once you do this, you can substitute the center. But this is a logical fallacy. Or you can keep using the structure, and stop attributing truth-value to the center. It is a provisional center or structure.
At no point, can we with any certainty invoke an absolute. Derrida is meditating on this idea, and questions philosophy as a rupture. He also questions philosophy as a discipline as he writes Structure, Sign, and Play.

For Derrida, undoing does not mean destroying, but analyzing incoherencies. "Such a play, différance, is thus no longer simply a concept, but rather the possibility of conceptuality, of a conceptual process and system in general," (Derrida, 63). From this, we find that the value of a signifier emerges only in relation to other signifiers. The process of meaning is deferred endlessly. Meaning emerges through deferral endlessly in addition to difference: to defer and to differ. The condition of language is to defer and to differ. Meaning, in language, emerges in the endless deferral of meaning: signifiers and signified. There is an endless deferral; the movement of meaning is a precondition of language. Language, to Derrida, is an endless chain of signifiers, and every signifier leaves behind a trace. Every time there is a deferral, a signifier leaves a trace behind, such as "bottle is not folder." Even though the signified is not present, it is also not absent. These synonyms exist in this word and thus leave a trace of deferred signifiers in the signified. Signifiers are not present but are not absent either, and help establish meaning. Without the residue of the signifiers, you would not have the meaning of the signified, and Saussere calls this linguistic value. The value is created from the sign as the other signs determine it in a semiotic system, and particular values because they exist in opposition to one another. If two of the terms disappeared, then the remaining sign would take on their roles, become vaguer, less articulate, and lose its "extra something" because it would have nothing to distinguish itself from.

We find that this presence/absence binary is collapsed at the level of signifiers. The corollary to this is that if there is an absence of the signified, there is an over abundance of signifiers. Every utterance always has the potential of more meanings, and there are multiple signifiers.

Deconstruction for Derrida means, "there is nothing outside the text," (Derrida, 65). That is to say, all of the references used to interpret a text are themselves texts, including the "text" of reality, as a reader knows it. There is no true objective, non-textual reference from which interpretation can begin. Deconstruction, then, can be described as an effort to understand a text through its relationships to various contexts.

Diagrams can be modes of becoming an emergence of différance. According to Derrida, "we will designate as différance the movement according to which language, or any code, any system of referral in general, is constituted historically as a weave of differences," (65). For Derrida, a diagram subverts the dominant oppositions and hierarchies currently constitutive of the discourse.

Architecture is a discursive-material field of cultural-political plasticity. Diagrams can describe the power relationships in the city and begin to map their urban spatial and architectural implications.

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The diagram could be used as a device that blurs the distinction between subject and object, bringing forth tensions of looking at and looking through, of being in and being out. According to Gilles Deleuze, "a diagram is no longer an auditory or visual archive, but a map, a cartography that is coextensive with the whole social field, and is an abstract machine, (Deleuze, 30)."

Diagrams can account for the effects of culture on both how we use our senses to understand spatial constructs, and the contents of the memory base used for comparison. There is considerable interaction between perception and culture, and diagrams can be an urban mosaic of perception. For Deleuze, in A Thousand Plateaus, smooth space and a nomadic lifestyle emphasizes an aimless life with no points of trajectory because when all fantasized projections of striated space are gone, only the immediate, natural world exists, free of the striation of conceptions of what is reality. Vagabonds and nomads are distinct from ideal, royal, or imperial essences. Conversely, striated space is the place of attachment to material possessions and social conceptions of importance of class, and with this attachment brings suffering. The source of striation is state power, even the mind is striated, and because of this, one must delve into the unconscious to rid of this striation. Within this realm of the striated and the suffering, power is obtained for the state through the need for the obtainment of things, or materialism. Perpetualization of power occurs through repetition of Bourgeois ideas, projections of commodity fetishism, consumerism, materialism, and class power. In this system, those who are well off obtain power. For Deleuze, nomadism is continuously inhibited and banned by the state, and the state typically imposes its form of sovereignty on the inventions of nomadism. Within this examination of the smooth, the striated, and the nomad, we find the binary of the war machine and the state apparatus. The exteriority of the war machine to the state apparatus is attested by the existence of the nomad, and the war machine follows nomadic ambition against the state. Deleuze writes that the war machine is of another species, another nature, another origin than the state apparatus. We find that there has always been a state, and to Deleuze, the state is what makes the distinction between governors and governed possible. The state seems to rise up in a single stroke, in an imperial form, and does not depend on progressive factors. Appropriation only occurs in the form of military institution for the state, and within the state, collective bodies always have fringes or minorities that reconstitute equivalents of the war machine. These groups on the margins of society serve as war machines within the state apparatus. For Deleuze, collective bodies, namely those of the state, are "differentiated and hierarchical organisms that enjoy a monopoly over power or function. The collective body of the state is sovereignty, and this sovereignty only reigns over what it is capable of internalizing. Deleuze writes that the war machine is a pure form of exteriority, whereas the State apparatus constitutes the form of interiority we habitually take as a model, or according to which we are in the habit of thinking.

Therefore, in a never-ending field of co-existence and competition, we find the exterior and the interior, the war machines of emancipation and change, and the state apparatuses of identity and power. To Deleuze, thought is in conformity with a model in that it borrows from the state apparatus, and that the apparatus defines for it goals and paths, conduits, and channels. Ultimately, from this we find that ideology forms identity. Thought is striated, and it is the necessary condition for the thought to be a form of interiority as a stratum.

The state exists because its power operates through the striation of thought, which seems inherent in nature to those being striated if one does not question the nature of their reality. What thought gains from this is a gravity that it would never have on its own, a center that makes everything, including

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the state, appear to exist by its own efficacy or on its own sanction, and through this, the state gains a whole consensus in that only thought is capable of inventing the fiction of a state that is universal by right.

The less people take thought seriously, the less that one is aware that freedom is in thought, and the more they think in conformity with what the state wants. Thought can be smooth space, a force that destroys the symbols and its copies, the model and its reproductions, and every possibility of subordinating thought to a model of the state. Through this, one can denounce the central interiority of the state as a means of control – the control of speech, language, and its affects. The state gives thought a form of interiority, and thought gives that interiority a form of universality. With this, we find that all varieties of the "real" and the "true" find their place in a striated mental space, and the nomad rejects this image and does things differently. The architectural diagram can operate in the same way.

Influenced by Derrida, Peter Eisenman reveals the critical power of the diagram, focusing on the importance of the postmodern discourses of historicism, place, and the linguistic turn in architectural theory. To Eisenman, the importance of the architectural diagram is the differences in the way that the diagram signifies, instead of signifying the diagram. Eisenman is more concerned with how architect's designs "externally motivate architectural signs through their desires when they apply an artificial set of signifiers that move an architectural sign beyond its architecturally structuring or internal motivation," (Eisenman, 205). Diagrams work to separate or distance the architect from the design process, and blur the relationship between the object/place and the subject, moving toward an unmotivated condition – ostensibly, according to Eisenman, producing random relationships between form, function, and meaning.

To Eisenman, in order for an architect to work diagrammatically, the diagram has to overcome the motivated conditions that are the root of architectural discourse, which introduces the strategy of the diagram as a negative or resistant agent that separates the architect from the process of design. Through this, the diagram then blurs the relationship between the desired subject (designer and user) and the desired object in order to move both subject and object toward the unmotivated condition.

"Therefore," Eisenman writes, "if a diagram can write architecture or act as a writing, this writing could be something different from the column as having an explicit and external sign function, the idea of writing as a diagram is a means of potentially overcoming the question the question of origin (speech) as well as the metaphysics of presence,"(208). Thus, for Eisenman, by focusing on the presence of the diagram as the primary condition, the diagram would be a means of reversing the motivated design process.

Here, we find the ideas of Deleuze, that free action resides within the smooth space or war machine, and that the opposite of this would be striated space or the repetition of the current state apparatus (Deleuze, 476). The diagram works as a war machine to reverse the motivated design process (state apparatus).

Similarly, Bernard Tschumi's multi-disciplinary approach to the diagram led to a new and critical conceptualization of architecture, in terms of its power to re-describe and superimpose multiple

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criteria of architecture such as the body, movement, event and narrative (Garcia, 195). Also important to Tschumi were relations between context, concept, and content in the possible future narratives of the city.

The diagram for Tschumi is a graphic representation of a concept, and for Tschumi, there is not architecture without a concept. Here, we find similarities with the art of Joseph Kosuth. The architecture component for Tschumi is located not in the "object" but in the idea or concept. The production of meaning or concepts is important to Tschumi, and concepts are best represented by diagrams due to their ability to blur the distinction between subject and object, of being in and out, or to operate as an abstract machine.

Ultimately, through his architectural diagrams, Tschumi is attempting to bypass the history of architecture and it's values, ideologies, and clichés. Here we see an influence from Derrida as Tschumi tries to re-configure what the definition of what architecture is. In order to do this, Tschumi – through the diagram – explores, at the city scale, the information and combination between concept, content, and context.

According to Tschumi, "You need to conceptualize this because these are not forms, they are very abstract and complex. The definition of the word 'city' has to do with a substantial amount of noise, (Garcia, 201)" When conceptualizing Derrida's différance, it is important to use the means at hand in order to concurrently question the discipline and examine the signs and signifiers presenting the perception of the concept, as well as to work and be aware of working in a position that is both in and out of socially constructed centers and structures.

For Bos and Berkel of UNStudio, the importance of the diagrammatic technique is its introduction of unspoken qualities that are disconnected from an ideal or ideology into a work. We find an influence of Deleuze when they write, "the diagram is not a metaphor or paradigm, but an 'abstract machine' that is both content and expression," (Bos & Berkel, 224). Their abstract machine is not representational, and its meanings are not fixed. Their diagrams are only valued for their production of new objects and situations – not those that already exist. Drawing from Derrida, Bos and Berkel write that "diagrammatic practice delays the relentless intrusion of signs, thereby allowing architecture to articulate an alternative to a representational design technique," (Bos & Berkel, 225). From this, we find that the problem with architecture that is derived from representational concepts is that it cannot escape existing typologies, and that the diagram is the method for Bos and Berkel for delaying typological fixation and not producing work that proceeds from signs.

The role that the diagram as abstract machine plays is that of which works as a synthetic explanatory device that opens up space through which a perceptibly reality may be related to the formal system that organizes it. Jakob Johann von Uexkull had an important role in doing this when he invented the term Umwelt, or that subject and object, perception and reality, and schema and senses are all inseparable from each other. The diagram represents the plastic aspect of reality where subject and object can virtually masquerade as one another. Deleuze's abstract machine isolates the diagram from the concrete events that it generates. According to Kwinter, "abstract machines are precisely what they claim to be: they are abstract because conceptually and ontologically distinct from material reality yet they are fully functioning machines nonetheless, that is, they are agencies of assemblage, organization,

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and deployment," (124). Architects have to understand their role as intermediaries, and to occupy the interstitial space to become diagrammatists.

From Agamben's critique on capitalism as an apparatus, and Derrida's theory on de-constructing the apparatus through considering ideology as a set of signs and signifiers, we see a connection to De Certeau when he says that places and cities are saturated with signification, and are reduced to this signification. This is important when considering the narratives of a city for a culture with Derrida's ideas of difference in mind. De Certeau suggests that the view from skyscrapers over-looking the city creates a "god" out of the viewer, and alienates the viewer from their daily behavior, from their sense of self. The walkers below cannot have this all-seeing "power," and walk blindly through the streets without a sense of what is known, and without a perception of what is to come. De Certeau says that this is "atopia-utopia of optical knowledge," and that this manages the growth of human agglomeration and accumulation.

Analyzing the configuration of the city further, de Certeau writes that the functions of the relations between spatial and signifying practices are indicated through street names, that the city is the legend, the memory, the dream, and that this allows a play of sorts within a system of defined places. To de Certeau, this causes places to be saturated with signification that reduces them to this signification; meaning that places and cities are, in the person's mind, compilations of stories and memories. According to de Certeau, totalitarianism attacks these superstitious semantic overlays that refer to a past and poetic realm.

The practice of signifying places and cities with signs composed from memories, legends, and dreams authorize the production of an area of free play on a checkerboard that analyzes and classifies identities. Traveling, while thinking in this sense, is the uprooting in one's origins - one's origins being the body of legends. Through travelling, a person compiled of the signifiers that construct their past and identity are lacking their own vicinity, or compilation of self, which leads to the effect of displacement, which I will explain further later on.

Signifying practices used while traveling are practices, which invent spaces, practices that bring meaning to space for a particular person. The contents and meanings of a space are products of people attempting to reveal to themselves what is unknown to them about the space. Thus, stories about places are makeshift things that are "heterogeneous and contrary elements that fill the homogeneous form of the story," and are "the world's debris." Due to this, stories are comprised of things that are extra and other, details and excesses coming from elsewhere that insert themselves into the accepted framework, the imported order, resulting in stories articulated by lacunae.

For de Certeau, "objects and words have hollow places where the past sleeps," and memory is subjective. Hints of what is known but unrevealed are passed on through memories that tie people to a place, and this is what makes a place "haunted." There is a pleasure in detachment caused by travelling, for people to be the other and more toward the other. The relationship of otherness to oneself governs how one materializes internal alterations of the place where they travel, the relations among the places lead to different levels of interpretation, or the unfolding of stories accumulated in a different place. The identity shaped by childhood experiences determines spatial practices within a person that create a metaphorical city within the planned city.

3. The Architectural Diagram as Abstract Machine

Going back to Agamben, while reading his work What is a People?, we find the essence of Derrida's writings on difference, as well as Certeau's ideas of the city. Agamben says that the interpretation of the political meaning of the term people is the fact that in modern European languages, this term always indicates the poor, the underprivileged, and the excluded. "The same term names the constitutive political subject as well as the class that is excluded – de facto, if not de jure – from politics," (Agamben, 29). People in the sense of the word is not unitary, but a dialectical wavering between two: the People as a whole inclusive integral body politic of sovereign and integrated citizens, and the people as a subset as an exclusive fragmentary multiplicity of needy and banished excluded bodies of the wretched, the oppressed, and the vanquished. The constitution of the human species is thus a body politic that comes into being through a fundamental split, and the concept of people we recognize as the aforementioned conceptual pair is the defining category of the original political structure, as identified by Agamben: naked life (people) and political existence (People) – an exclusion and inclusion (as noted above). The pure source of identity in this sense has to redefine and purify itself continuously according to exclusion, language, blood and territory. "As a matter of fact, what Marx calls class struggle – which occupies a central place in his thought, even though he never defines it substantially – is nothing other than this internecine war that divides every people and that shall come to an end only when People and people coincide, in the classless society or in the messianic kingdom, and only when there shall no longer be, properly speaking, any people," (Agamben, 32). Today, poverty and exclusion are political categories, as well as economic and social concepts. Those who refuse integration in the national body politic are the naked life that modernity creates within itself but cannot tolerate, and in the capitalistic plan to eliminate the poor, the people of the excluded are reproduced further within it. From this, we find that identity must be recognized and honored. According to Charles Jencks, "since post-modern communication was simultaneously putting them in touch and flattening differences, the large world cities were becoming much more homogenous," (Jencks, 53). It was from this realization that it became morally compelling to nurture plurality in architecture. Modern history, to Jencks, suppressed the history of the city into a depthless present, or an 'empty landscape of psychosis.' There was thus a need for post-modernists to layer the urban realm as if it were a manuscript on which different generations write their identity. For Jencks, time is the architect, the nation is the builder, and these ideas enacted the instant building of difference within the city by Post-Modern architects in the 1980s. Architects use the computer to present complexity as the juxtaposition of difference, instead of pursuing seamless continuity [complexity theory]. These designs dramatize identity and the complexity of the past. Currently, the contemporary answer to the problem of presenting the juxtaposition of difference in architecture is the iconic building with its enigmatic signifier. "Meanings now had to be plural, mixed as metaphor, and carry a paranoiac charge but, more importantly, carry significant and relevant suggestion," (Jencks, 213). The difficulties architects faced were that of celebrating whisky, airplane, and soap monopolies, architects struggled to find more important content to signify than shopping, to find better commissions than commercial ones. The failures of modern architecture were the reductive nature of building types carried out in dull, neutral style with little iconography beyond emphatic size that Modernists designed for Lever Soap, Pan American World Airways, and Seagram Whiskey. "No doubt in terms of communicational means, the languages of Post-Modernism has increased the repertoire of architecture," (Jencks, 242). With Post-Modernism are its rhetorical means: ornament, color, wit, metaphor, signs, and material exaggeration. Post-Modernism is a subversion from the power elite that utilizes conscious and conventional signs that aim to portray deeper, underlying meaning – depending on interpretation In order to not be seen as complicit with power, according to Jencks, architects dramatize their

3. The Architectural Diagram as Abstract Machine

risk-taking creativity, and most architects have a social conscience and want to design contextual counterpoint. With a diagram that not only maps the identity of the city, but works also as an emergence of difference, contextual counterpoint can be more easily achieved.

4. The Diagram as a Means for the Emancipation and Autonomy within the Discipline

Eisenman uses Derrida and the diagram for the emancipation and the creation of autonomy of the discipline. Influenced by Derrida, Peter Eisenman reveals the critical power of the diagram, focusing on the importance of the postmodern discourses of historicism, place, and the linguistic turn in architectural theory. To Eisenman, the importance of the architectural diagram is the differences in the way that the diagram signifies, instead of signifying the diagram. Eisenman is more concerned with how architect's designs externally motivate architectural signs through their desires when they apply an artificial set of signifiers that move an architectural sign beyond its architecturally structuring or internal motivation. Diagrams work to separate or distance the architect from the design process, and blur the relationship between the object/place and the subject, moving toward an unmotivated condition – ostensibly, according to Eisenman, producing random relationships between form, function, and meaning.

Therefore, for Eisenman, if a diagram can write architecture or act as a writing, this writing could be something different from the column as having an explicit and external sign function, the idea of writing as a diagram is a means of potentially overcoming the question the question of origin (speech) as well as the metaphysics of presence. Thus, by focusing on the presence of the diagram as the primary condition, the diagram would be a means of reversing the motivated design process. Here, we find the ideas of Deleuze, that free action resides within the smooth space or war machine, and that the opposite of this would be striated space or the repetition of the current state apparatus. The diagram works as a war machine to reverse the motivated design process (state apparatus).

This work is notable for the identification and investigation of apparatuses, together with the incessant attempts to find new ways to dismantle them. With this, Agamben presents the idea of contemporariness. The ones who call themselves contemporary are only those who do not allow themselves to be blinded by the lights of the century, and so manage to get a glimpse of the shadows in those lights, of their intimate obscurity. Darkness is something that – more than light – turns directly singularly toward them. With this, Agamben asserts that the contemporary allows himself or herself to see outside of societal and social confines, and to maintain a psychic automatism. Additionally, Agamben states that contemporariness does not take place in chronological time; it is something that working with chronological time urges passes and transforms it. With the contemporary's critical view, norms that inhibit the social body can be transformed. Those who coincide too well with the epoch, those who are perfectly tied to it in every respect, are not contemporaries, precisely because they do not manage to see it; they are not able to firmly hold their gaze on it.

Derrida calls using the provisional structure with the knowledge that it is not an absolute truth bricolage. The person who does this thinking is the bricoleur. The bricoleur is a handyman, uses things at hand to put them together. The bricoleur is making due with what he or she has, but is paying attention to the little pieces and how they fit together.

An example of a bricoleur is Joseph Kosuth. According to the Guggenheim online collection, during the formative stage in his work, Kosuth made the tautological nature of art explicit. Taking a critical step back, Kosuth resolved that art presupposes the existence of an aesthetic entity that fulfills the

4. The Diagram as a Means for the Emancipation and Autonomy within the Discipline

criteria of artness. With this criteria, as Marcel Duchamp had shown with his ready-mades, art could be deemed art by the declaring "this is a work of art."

Kosuth used this linguistic approach to explore the social, political, cultural, and economic contexts through which art is presented and thus defined. Investigating the discursive possibilities of art, Kosuth used language itself as his medium, and created a conceptual art where perception was replaced by intellectual provocation, and words replaced images or objects. Kosuth sought to demonstrate that the "art" component is not located in the object itself but rather in the idea or concept of the work. Kosuth's art operated to critique the production of meaning, instead of merely representing meaning.

Through this, Kosuth was attempting to reveal that all ideas or concepts constructed are within cultures. While not working with found objects like Duchamp, but with found signifiers and signs, Kosuth could still be considered a bricoleur. Bricolage, as a philosophical endeavor, is to function within an inherited system that is incoherent with the person being aware of this. In a sense, the bricoleur is building with what is at hand, using the provisional structure with the knowledge that it is not an absolute truth. Everything is provisional in terms of class, history and politics. Discourses in circulation are themselves sites of power and the contest for power.

Surrealist concepts are resolutions to the problem of the lack of emancipation and autonomy in architecture as a discipline, and to the problems presented by Derrida's ideas of deconstruction theory. Diagrams can be a mode of an emergence of not only différance, but also of a place for experiments in autonomy through the vehicle of Surrealist principles. For Benjamin, the Surrealists have discovered revolutionary forces in particular objects and everyday use. Most importantly, for histrionic or fanatical stress on the mysterious side of the mysterious takes us no further; we penetrate the mystery only to the degree that we recognize it in the everyday world, by virtue of a dialectical optic that perceives the everyday as impenetrable, the impenetrable as everyday.

5. # The Representation of the Diagram

Evan's concerns with the spatialities of everyday life share certain sympathies with de Certeau, who has also done much work on the radicality of the everyday. De Certeau speaks of space in terms of the effect produced by the operations that orient it, situate it, temporalize it, and make it function in a polyvalent unity of conflictual programs or contractual proximities. It is the polyvalent realities of architecture as a practice that Evans brings to our attention. The essay, Translations from Drawing to Building demonstrates a shift towards the study of drawing as a device for thinking and imagining. "Architecture is discussed, explained, and identified almost entirely through its representations, and these representations are often treated as through they were the architecture itself," (Rattenbury, 1). The culture of treating un-built, imaginary designs, as architecture is essential to the design process as taught and used in the Western world. Architecture itself (the buildings as much as the representations) can be considered a medium. The concepts and narratives of the diagram, as noted above, should be an emergence of difference, emancipation, and autonomy. Although, guidelines should be set in order to ensure an objective, contemporary (in an Agamben sense of the word), mode of abstraction. The ones who call themselves contemporary are only those who do not allow themselves to be blinded by the lights of the century, and so manage to get a glimpse of the shadows in those lights, of their intimate obscurity. A contemporary diagram would be one that is outside of the societal and social confines of style and trend. It would exhibit no style or trend, just an aim for a clear design to display data, and while working within this absence, can exceed the barriers of what constitutes a diagram by working and arranging data freely and autonomously.

Tufte outlines appropriate guidelines for creating information design that is clear, but displays the most amount of data possible without becoming confusing. Tufte says that designers need to create for audiences that are assumed as intelligent, instead of dumbing down the information. Also, he writes that any non-data ink or decorative elements should be omitted, and that elements that are easily read by the human eye should be used, such as serif typefaces. Tufte writes that all graphics should be simplified as much as possible, and that colors should be muted with only small bursts of bright or dark colors in order to communicate quality, value, or hierarchy.

These guidelines provide a well-articulated argument for an objective approach to communication and information design. It lets us see that it is important to focus on presenting the information, and not just decoration. With this, we find that diagrams can be experimental in nature, data heavy, but also legible. All of these elements are important in design when considering the theoretical, historical, and multi-disciplinary use of the architectural diagram. Certain fonts or typefaces can convey a feeling, and the same is true for colors in design. Graphics can skew the information so that it conveys a theme or an emotion. Together, these elements can create a bias visualization of information. In order to prevent this, diagrams that operate as abstract machines should utilize fonts that are entirely void of character. Also, color should not be used – unless it is important to conveying truth – and non-contextual design graphics should not be present.

6.   Narrating the City with the Diagram

Most buildings are related to some sort of narrative, and narratives, the stories of places and people, are the raw material of everything that an architect does. Perception is strongly influenced by prior experience, and preference are the result of cultural and ethnic patterns, personal experience, are influenced by prior experience as manifested in memory. Cultural modifiers are shaped by both culture and position in regard to contextual codes. What is critical in understanding preference is to account for the effects of culture on how we use our senses to understand spatial constructs, and the contents of a person's memory base used for comparison. There is considerable interaction between perception and culture, and sensory modalities are fundamental to this. "The range and intensity of sensory data should be of prime importance to designers generally, and urban planners particularly," (Malnar & Vodvarka, 119). This makes the knowledge of the characteristics and the narratives of an area critical to designers in the pre-planning stages. In order to nurture plurality, design the most local contextual counterpoint, and truly allow the diagram to be an emergence of difference, architects need standards to research the city, as it is perceived to those whose identities are constructed by it. Defining, collecting, cataloging, and analyzing artifacts, using archival and secondary data in ethnographic research, and mapping spatial data, can gather information. "Artifacts become cultural when they acquire meaning or significance because of how they relate to history, behavior, practices, and the values and beliefs of the groups that produce and use them," (LeCompte, 1). Artifacts evoke the identities, concepts, and values to which individuals and members of a culture adhere. "The enactment of social roles is enhanced by markers that people adopt and 'put on' to signify their identity and enhance their performance of a given role, these markers are referred to as an identity kit, which consists of and is expressed in types of clothing, jewelry, cosmetics, hair styles, housing, interior decorations, tools people use, the leisure activities and foods they prefer, their modes of movement, speech codes and styles," (LeCompte, 9). Additionally, the purposeful set-up of a map from a community, in this example a tourist map in particular, can reveal how the map might promote commodification of the local environment and history through critical analysis. In the process of making sense of artifacts, researchers can learn about the ways in which people construct, maintain and even transform their identities. To triangulate the accurate portrayal of an object, information from various sources should be compiled and analyzed, which may include photographs and drawings, stories told and recorded about them, video and audio recordings of the objects in use or field notes and drawings made during use, and historical material on use in the past and changes in manufacture over time. Sometimes, the process will result in a consensus on or a composite sense of the artifact; other times it will produce several stories because creating a consensus or identifying a uniform "truth" about it may not be possible. Artifacts can signify cultural identities, and can present what who people are, and how they wish to present themselves. The concept of the identity kit in ethnographic research is the adornments people put on their bodies and enact in behavior to signify their identity, which can also serve as markers of status and culture.

 Archival data is material originally collected for bureaucratic or administrative purposes that are transformed into data for research purposes, and secondary data is raw data that is transformed into data for research purposes. "The U.S. Census, other national census data, and many other such data sets provide demographic, health, housing, and other important information about the population of a study before entering the field and can be a useful supplement to primary data collection during post-field analysis. Researchers also can find many sources of information about local communities in the form of reports, fact books, and maps. Local archival data is available on general demographic and socioeconomic characteristics of the research community, as well as a specific aspect of the population

Narrating the City with the Diagram

of interest such as educational achievement levels.

People of all cultures classify the world around them in cognitive domains, and how this is done affects their interaction with the world. Not all cultures classify things the same way, and cultural domains are not about a person's particular preferences, but are about their perceptions. "Cultural domains are experienced as outside the individual and shared across individuals," (Borgotti, 82). The communities, villages, schools, and other social settings the ethnographer studies exist in particular environments that are both natural and human made, and the daily activity patterns of individuals are often constrained by the contemporary geography of the community – the culmination of earlier human-environment interactions. To the individuals that live in the community, the attributes of its environment are fixed. "The spatial view of data contributes information that cannot be obtained in any other way, and cartographic representation and analysis of spatial data make it possible to go beyond tabular and statistical views of data," (Cromley, 117). Spatial analysis reveals the importance of neighborhood or environmental spatial-contextual influences.

Cognitive maps, as used in geography are long term stored information (stored in the heads of individuals) about the relative location of objects and phenomena in the everyday physical environment. The environments that are the basis for the individual's cognitive map may be known to exist or may be imagined, and they often represent a mix of information drawn from different periods of time. "Both cognitive and developmental approaches have been applied to the study of spatial cognition," (Cromley, 135). With developmental approaches, with the awareness of perceived objects, spatial perception begins. Other attributes of perceived objects that contribute to spatial perception are the location of the object in time and space, the recognition of attributes of the object, and the attachment of meaning to it. The neighborhood is a physical area, readily identifiable on a map, and many cues such as housing types, land use, and density signify neighborhoods. The social component of the neighborhood consists of local interaction, social class, ethnic and racial origins, life cycle characteristics of the population, length of residence, and place of work. Also, the level of education and social class can be used to identify a neighborhood's perceived size and complexity. The image-ability of the environment, to ethnographic research, is the recognition of physical features, but more importantly, is the individual's perception of the form of physical features in the landscape, as well as the social or behavioral significance that the individual attributes to the feature.

Sense of place also develops as a deep attachment through experience and memory to the places where we have lived. Objective aspects of location are combined with subjective experience, direct or indirect. "Attention has been focused on how sense of place is created by intention in contemporary architecture and planning," (Cromley, 137). Geo-referenced data based on the built environment, are now available on the internet, and are becoming a part of an individual's experience of places. Perceptions of places in neighborhoods are no longer based simply on a person's sensory experiences or cognitive map, but are also based on the geo-referenced information that one chooses to look at. Cognitive mapping is crucial for navigating the cultural logic of late capitalism, and its close-up processes of social observation and rich ethnographic description can complement the synoptic GIS maps of an area. "Diagrams are used by both scientists and designers throughout such integrated work to help uncover the relationship between the various disciplines, to communicate complex scientific concepts to lay audiences, and to assist people in making design decisions based on performance rather than aesthetics," (McGrath, 159). In order to nurture plurality, design the most local contextual counterpoint, and trulyallow the diagram to be an emergence of difference, architects need standards to research the city, as it is perceived to those whose identities are constructed by

6.   # Narrating the City with the Diagram

it. Defining,collecting, cataloging, and analyzing artifacts, using archival and secondary data in ethnographic research, and mapping spatial data, can gather information. "Artifacts become cultural when they acquire meaning or significance because of how they relate to history, behavior, practices, and the values and beliefs of the groups that produce and use them," (LeCompte, 1). Artifacts evoke the identities, concepts, and values to which individuals and members of a culture adhere. Additionally, thepurposeful set-up of a map from a community, in this example a tourist map in particular,can "reveal how the map might promote commodification of the local environment and history through critical analysis," (LaCompte, 18).

Tschumi
architecture's role is not to express an
extant social questioning, that structure
architecture social structuring, that structure
as a tool for it
and revising it

Places and cities are saturated
with signification, and are reduced
to this signification.

Post-Modernism, Contextu-
al counterpoint

In order to nurture plurality,
design the most local contextu-
al counterpoint, and till-val-
low the diagram to be an emer-
gence of difference architects
need standards to research the
city, as it is perceived to
those whose identities are con-
structed by it.

"a diagram is no
longer an auditory
or visual archive,
but a map, a cartography that is
coextensive with the whole social
field, and is an abstract machine"

Gilles Deleuze

Ethnographic Research

Charles Jencks

de Certeau

What is a
People?
What is an
Apparatus?

Difference

Agamben

Structure,
Sign & Play

Bricolage

Jaques Derrida

Eisenman
uses derrida and the diagram for the
emancipation and autonomization of the
discipline
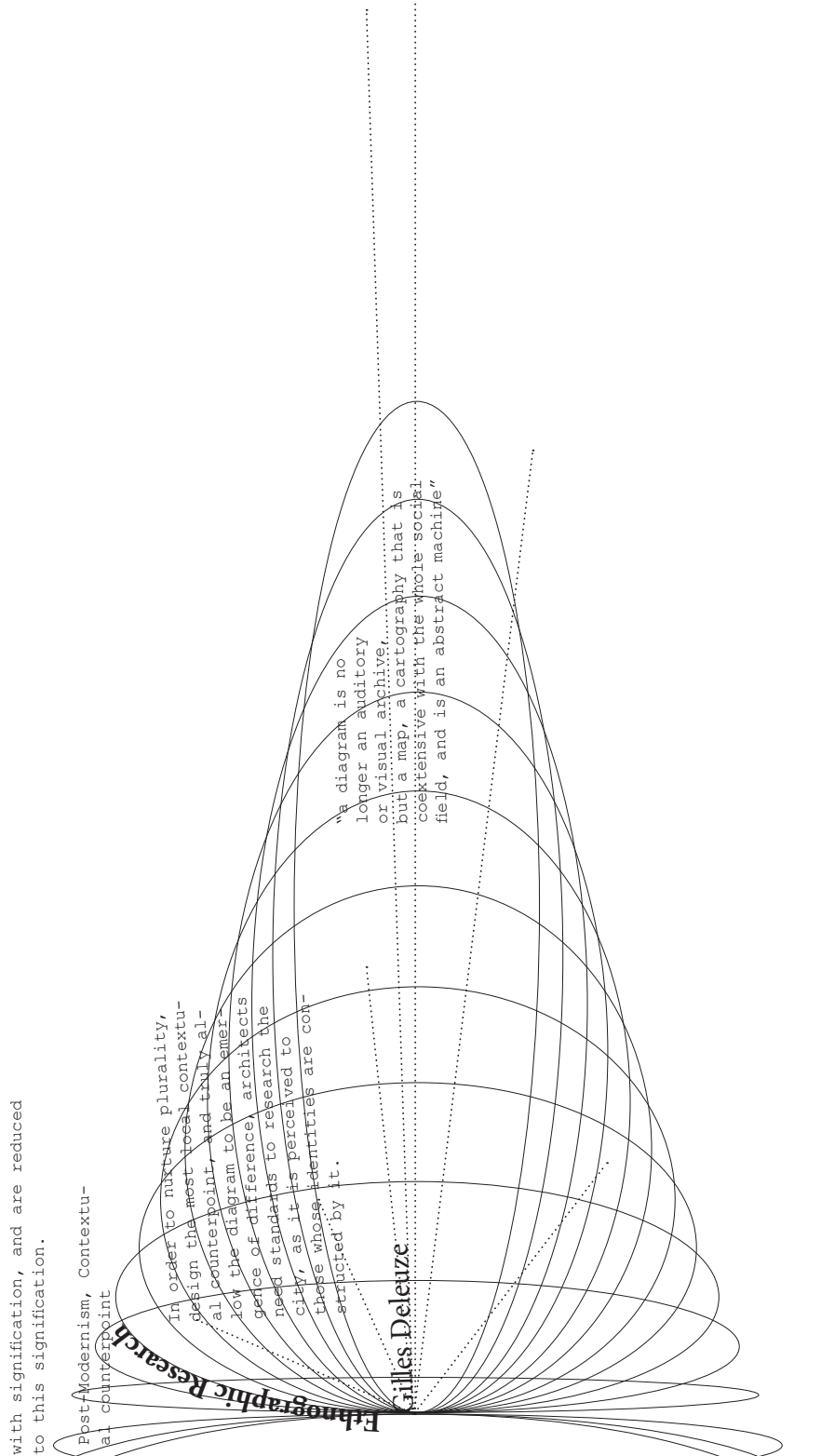
7. Architectural Diagram Case Studies

For the case studies, sets of diagrams from different particular architects were analyzed using Edward Tufte's design parameters in order to illustrate or note the graphic, color, and text trends in each diagram. The parameters were be developed from a literature study of Edward Tufte's Envisioning Information. These parameters helped define the overall trends in design favored by each architect or firm, and worked as an organizing principle to sort through the characteristics. The case study portion of the thesis will prove the need for parameters in design that provides an objective guideline for designing a clear diagram, and will also produce an understanding of what architectural diagrams look like and what are used for.

The diagrams chosen for this case study were decided after looking at many diagrams from different architects, and were decided upon based on their theoretical use. From that, the styles of each diagram was analyzed using a set of criteria to differentiate from each characteristic.

The diagrams examined in the case studies were those involved in pre-design work, where the invisible forces that underlie architecture can be visualized and revealed. These diagrams work as intermediate spaces that lie between space and time, and are placeholders that work as abstract machines. The diagrams are abstract means of thinking about organization, and are the architect's best means to engage the complexity of the real. The place of these diagrams is in the operational, inter-subjective field, where meanings are formed.

Thus, these diagrams should be easily understood. The diagrams that reveal, and represent the context and narratives of the city should be just as clearly represented graphically. Edward Tufte outlines the characteristics needed for clearly communicated information design and diagrams in his book, Envisioning Information. The criteria used to analyze each of the architect's diagrams were created from the same criteria Tufte explains throughout his book.

4   5   8

Comparison matrix of graphic/visual conventions across architectural offices. Columns are attributes (grouped under **Color** and **Text**); rows are individual projects (1–8) for each office. A ● indicates the attribute is present.

Office	#	White Bg	Muted Bg	Bright/Dark Bg	Gray/Light Grids	Dark Grids	Colors mainly light/gray	Colors mainly dark/	Small Spots of Intense/Bright	All Colors from Nature	Some Colors from Nature	No Colors from Nature	Color Represents Reality	Color is main identifier	Labels annotated w/ color	Color used for Measuring	Use of Value to show Quantity	Hierarchy of Text	Text Integrated into Graphics	Serif Font Used
Lateral Office	8	●					●											●	●	
	7		●		●			●			●							●	●	
	6	●					●		●					●		●	●	●	●	●
	5	●	●				●		●		●			●		●		●	●	
	4	●					●										●	●	●	
	3		●				●		●	●			●					●	●	
	2		●				●		●	●			●					●	●	
	1		●				●		●	●			●					●	●	
Tschumi	8	●					●		●									●	●	
	7			●				●							●			●	●	
	6	●					●		●									●	●	
	5	●						●		●				●		●		●	●	
	4			●			●	●	●	●			●	●		●		●		
	3			●			●	●									●			
	2	●					●													
	1	●					●													
Archizoom	8	●					●	●												●
	7		●					●												
	6	●						●												
	5	●					●													●
	4	●						●												●
	3	●						●												●
	2	●					●													
	1	●					●													
Morphosis	8	●			●		●		●	●				●		●		●	●	
	7	●					●		●			●		●		●	●	●	●	
	6	●					●		●	●			●	●	●	●		●	●	
	5	●					●		●					●		●	●	●	●	
	4		●				●		●		●			●		●	●	●	●	
	3	●						●					●		●			●	●	
	2	●					●		●	●				●		●		●	●	
	1	●					●		●	●						●		●	●	
Koolhaas/OMA	8			●	●		●			●			●	●	●			●	●	
	7			●	●		●		●									●	●	
	6	●					●		●					●	●	●	●	●	●	
	5			●			●				●			●	●	●		●	●	
	4	●					●			●										●
	3	●			●		●											●	●	
	2	●			●		●													
	1		●				●			●				●		●		●	●	
UNStudio	8	●			●		●		●	●				●				●	●	
	7	●						●			●			●				●	●	
	6	●						●			●			●		●		●	●	
	5	●					●		●	●				●		●	●	●	●	
	4	●					●							●			●	●		
	3	●					●					●				●		●		
	2	●					●		●	●					●			●	●	
	1	●					●			●				●	●	●		●		

Axis groupings: **Color** (White Background … Use of Value to show Quantity), **Text** (Hierarchy of Text, Text Integrated into Graphics, Serif Font Used).

Matrix comparing graphic attributes across firms. Columns are attributes; rows are each firm's sampled projects (1–8).

Firm	#	Non-Serif Font Used	Both Serif & Non-Serif Used	Kerning Visible	One Type-face Weight Used	2 Type-face Weights Used	3 Type-face Weights Used	3+ Type-face Weights Used	Marks and Labels as Small as Possible	Names attached directly to Parts	Non-Horizontal Text	Fine Edge Lines	Bold Edge Lines	Text/Graphic line values different	Text/Graphic line values same	Text/Graphic line values some variation	All Ink is Data-Ink	Context-Free Decoration	Direct-Labeling	Scale Information Provided
UNStudio	1	●				●			●			●	●			●	●			
UNStudio	2	●				●				●		●		●			●			
UNStudio	3	●				●			●	●	●	●					●			
UNStudio	4	●			●				●	●	●	●	●		●		●		●	
UNStudio	5	●			●				●	●	●					●	●		●	●
UNStudio	6	●			●				●	●	●	●	●	●			●			
UNStudio	7	●				●			●	●						●	●			
UNStudio	8	●				●			●	●		●		●			●		●	
Koolhaas/OMA	1	●			●				●	●		●		●			●		●	
Koolhaas/OMA	2	●		●		●			●		●	●	●	●		●	●			
Koolhaas/OMA	3	●			●				●			●		●			●	●		
Koolhaas/OMA	4	●		●		●			●					●				●		
Koolhaas/OMA	5	●		●	●				●	●		●				●	●			
Koolhaas/OMA	6	●							●	●		●					●		●	
Koolhaas/OMA	7	●							●	●		●						●	●	
Koolhaas/OMA	8	●				●			●	●		●		●					●	
Morphosis	1	●					●		●	●	●	●				●	●		●	
Morphosis	2		●	●		●			●			●		●			●		●	
Morphosis	3	●		●	●				●			●		●			●			
Morphosis	4	●				●			●	●		●		●				●	●	
Morphosis	5					●			●	●		●		●			●			
Morphosis	6	●		●		●			●			●		●			●			
Morphosis	7		●			●			●			●		●			●		●	
Morphosis	8		●	●		●			●	●		●		●			●			
Archizoom	1				●							●	●		●					
Archizoom	2				●							●	●		●					
Archizoom	3				●							●	●		●					
Archizoom	4				●							●	●							
Archizoom	5				●							●	●							
Archizoom	6											●	●		●					
Archizoom	7	●				●					●	●	●							
Archizoom	8				●							●	●							
Tschumi	1											●								
Tschumi	2											●								
Tschumi	3											●	●							
Tschumi	4	●				●			●			●		●			●			
Tschumi	5	●			●				●	●	●	●				●			●	●
Tschumi	6	●								●		●		●			●		●	
Tschumi	7	●				●			●	●		●				●		●		●
Tschumi	8		●			●			●	●	●	●				●			●	●
Lateral Office	1	●		●		●			●			●		●			●			●
Lateral Office	2	●		●		●			●	●		●		●			●			●
Lateral Office	3	●		●		●			●	●		●		●			●			●
Lateral Office	4	●		●		●						●		●		●	●			
Lateral Office	5	●				●			●			●		●			●			
Lateral Office	6	●		●		●			●			●		●			●			
Lateral Office	7	●		●	●				●	●		●		●			●		●	
Lateral Office	8	●		●		●			●	●		●		●			●			

Graphics

	UNStudio								Koolhaas/OMA								Morphosis								Archizoom								Tschumi								Lateral Office							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Cross-Hatching Used																									●																							
Bars Replaced with Single Lines																																	●						●									
Boxes Used																																																
Shadows Used																																																
Legends Used	●		●											●					●	●		●		●												●					●	●	●	●	●	●	●	●

UNSTUDIO

1. European Research program (FP7: 2008-2012): H2SusBuild. 2. Active and Passive Circle. 3. Form Follows Energy. 4. Attainability. 5. Mobility. 6. Hanwa Headquarters Responsive Facade. 7. Osirys Update. 8. Void Analysis.

AMO

1. Harvard Commissioned Study. 2. Carrefour Commissioned Study. 3. Exposition Universelle Design Development. 4. Hollocore Ruhrgebiet Commissioned Study. 5. Groupe Galeries Lafayette Competition. 6. Amo Atlas Research Study. 7. History of Europe and the European Union. 8. AMO Atlas.

MORPHOSIS

1. The Now Institute: Haiti Now. 2. The Now Institute: Culture Now. 3. The Now Institute: New Orleans Now. 4. The Now Institute: Madrid Now. 5. The Now Institute: L.A. Now Volumes 3 and 4. 6. The Now Institute: L.A. Now Volume 2. 7. The Now Institute: L.A. Now Volume 1. 8. The Now Institute: Culture Now.

ARCHIZOOM

1-8. No-Stop City.

TSCHUMI

1. Screenplays, 1976. 2. The Manhattan Transcripts, 1976-1981. 3. Parc de la Villette Paris, 1982-1998. 4. Atmosphere Park Santiago, 2010. 5. Atmosphere Park Santiago, 2010. 6. Centre Georges Pompidou Retrospective Paris, 2014-2014. 7. Atmosphere Park Santiago, 2010. 8. Joyce's Garden London, 1976

LATERAL OFFICE

1. Caribou Pivot Stations, Research Station Hybrids Nunavut, Canada 2010. 2. Health Hangars, Airport and Hospital Hybrids Nunavut, Canada, 2010. 3. Ice Road Truck Stops, Contwoyto Winter Road NWT, Canada, 2010. 4. Caribou Pivot Stations, Research Station Hybrids Nunavut, Canada 2010. 5. Hydroborders, South America Project: Harvard GSD Andean region, South America, 2011-2012. 6. Hydroborders, South America Project: Harvard GSD Andean region, South America, 2011-2012. 7. Weatherfield, Land Art Generator Initiative, Public park and energy-generating source Abu Dhabi, UAE, 2010. 8. Health Hangars, Airport and Hospital Hybrids Nunavut, Canada, 2010.

Architectural Diagram Case Studies

ENVISONING INFORMATION

Good Design
Characteristics
Text
Hierarchy of Text; Text
Integrated into Graphics;
Serif Font Used; Both
Serif & Non-Serif Used;
Kerning Visible; 2 Type-
face Weights Used; Marks
and Labels as Small as
Possible; Names attached

Color
Color is the main
identifier; Colors used
mainly light/gray;
Small Spots of Intense/
Bright Colors; All
Colors Used from Nature;
Gray/Light Grids; Some
Colors Used from Nature;
White Background; Muted
Background; Labels
annotated with color;
Color used for Measuring;
Use of Value to show
Quantity

Graphics
Text/Graphic line
values different; Text/
Graphic line values
some variation; All
Ink is Data-Ink; Scale
Information Provided;
Direct-Labeling

Poor Design
Characteristics
Text
Non-Serif Font Used; Non-
Horizontal Text; 3 Type-
face Weights Used; 3+
Type-face Weights Used

Color
No Colors Used from
Nature; Colors used
mainly dark/bright;
Bright/Dark Background;
Dark Grids

Graphics
Cross-Hatching Used;
Bold Edge Lines; Text/
Graphic line values same;
Context-Free Decoration;
Boxes Used; Shadows Used;
Legends Used
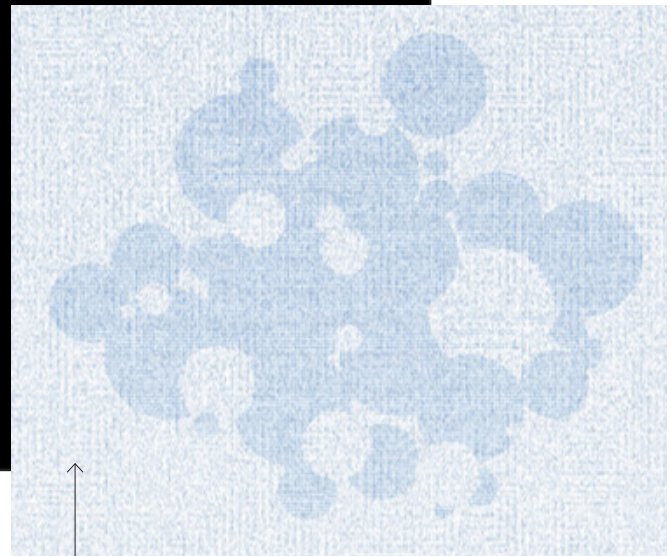
*Void circles represent the prevalence of poor design trends found in
the case studies; blue circles represent the prevalence of good design.*

9. Case Study of Archizoom, Experimental Design

Archizoom, or Studio Archizoom Associati was a group of Florentine architects, founded in 1966, devoted to anti-Functionalism, and employing elements from popular 'culture' and even from Kitsch. It was associated with Supersensualism, anti-design, and so-called 'banal' design. Archizoom attempted a radical representation of the architectural plan as an abstraction of form in relationship to labor. The drawings of No Stop City depicts a city plan in the form of an abstract field of dots and Xs. The geometry that orders the disposition of the dots and Xs represent the architecture of a city. Read in this way, Xs are columns occurring every 50 meters. The remaining infrastructure fits within the grid of plug-ins occurring every 5 meters, etc. The overall layout illustrated an urban condition governed by the minimum welfare necessary to guarantee the reproduction of those living and working in this urban field. Archizoom saracastically defined this type of city as, "a bathroom every 50 square meters." These drawings force us to reconsider the idea of abstraction as something different from the stylish modernist or minimalist architecture with which it has often been associated.
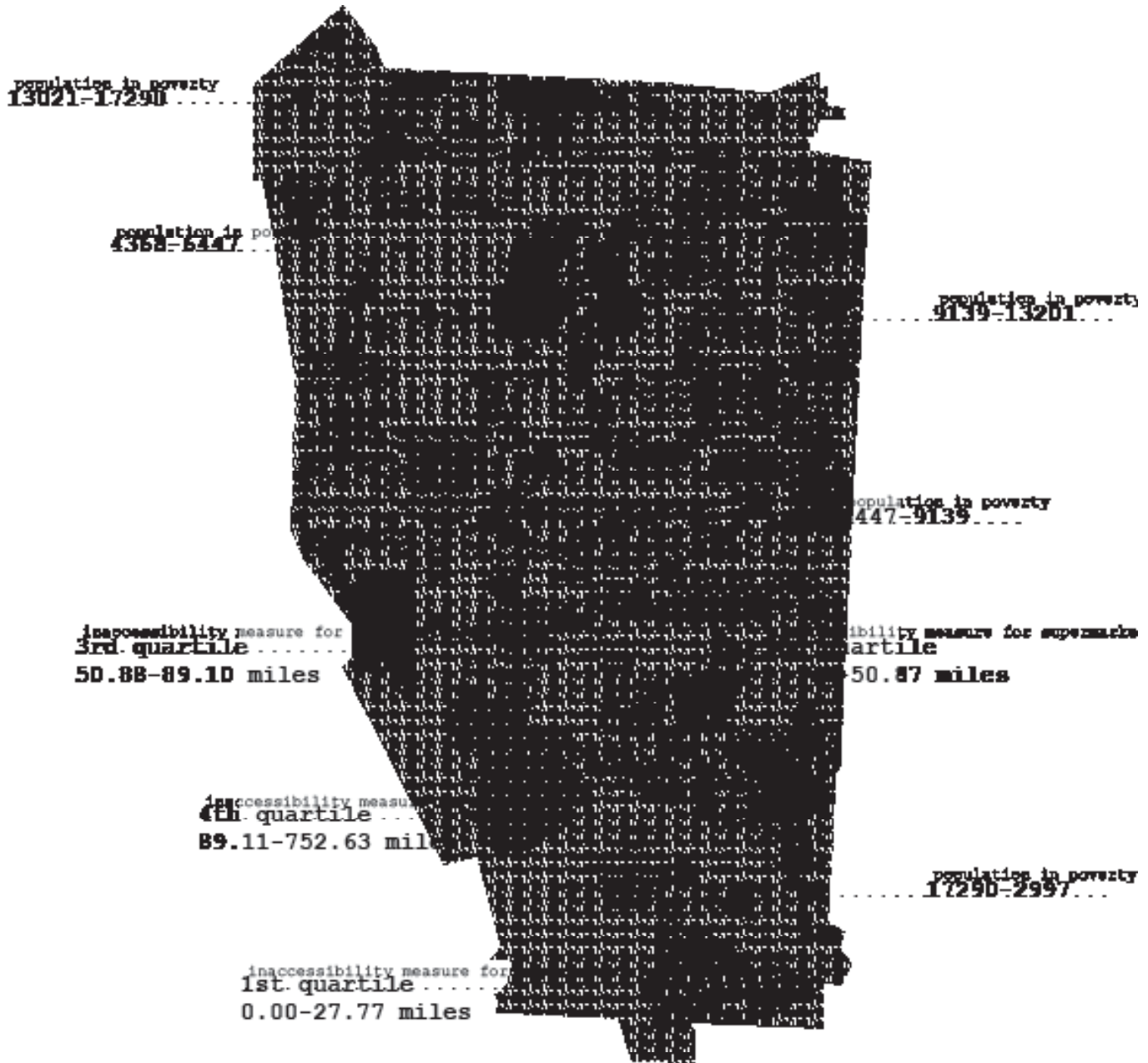
Data on the city of Buffalo, New York as a test site for this thesis was compiled with the theme of presenting a city in an abstract field of typeface letters and symbols in order to represent the basic conditions of an existing city, and the urban condition currently needed to preserve the reproduction of those living and working in the urban field. The designed diagrams attempted to strip all of the infrastructure of any architectural attribute, and rendered it in infrastructural and biopolitical objectivity, in the same way Archizoom's diagrams aimed to do so.

Figure one shows the population of Buffalo in poverty in the typeface's period marks, and the accessability to supermarkets in each neighborhood in the quantity of the typeface's 0's.

Figure two represents the median income of each neighborhood in Buffalo, as well as the prevalence of particular educational degrees. This used the same parameters as aforementioned of the typeface limits. From the Archizoom case study and design experiments, it has been determined that this method may not be the best solution for conveying information in rendered objectivity since each diagram has information that is layered and is thus, comparative. The next set of diagrams both isolate information and layer everything all at once, and allow users to choose which data layers are shown in a diagram at a time. Also, the use of a typeface's parameters has proven to be irrelevant to objectivity in this case, and were not pursued further.

Figure three consists of geo-referenced data compiled from user's discussions about Buffalo on the internet, layered with GIS information, and follows the same design parameters outlined in the Archizoom case study and design experiment. As noted before, the data in this diagram was also revised with the findings from the conclusions of this research in mind.

Figure 1.

population in poverty
13021-17290 . . . . .

population in po
4368-6447 . . . .

population in poverty
9139-13201 . . .

population in poverty
6447-9139 . . . .

inaccessibility measure for
3rd quartile . . . .
50.88-89.10 miles

ibility measure for supermark
artile
50.87 miles

inaccessibility measu
4th quartile . . . . . .
89.11-752.63 mil

population in poverty
17290-2997 . . .

inaccessibility measure for
1st quartile . . . . . .
0.00-27.77 miles

. . . .

Figure 2.

masters
2097-3077

median income
28526-31410

riverside

north park

university

doctorate
291-426

promise

median income
41462-5664

black rock

forest

lasalle

doctorate
153-291

doctorate
55-153

bachelors
1138-1980

parkside

delaware park

grider

median income
31410-41462

hamlin park

masters
518-828

masters
828-2097

grant-ferry

masten

west side

mlk park

schiller park

bachelors
1980-4866

allentown

medical

median income
20326-24086

doctorate
16-55

median income
24086-28526

lovejoy

bachelors
466-757

broadway-fillmore

downtown

kaisertown

bachelors
757-1138

old 1st ward

the valley

masters
19-261

masters
261-518

the triangle

doctorate
0-16

bachelors
188-466

south park

Figure 3.

of buffalo, new york*

* compiled from online
discussions and Arc GIS

river rats

guidos

the new elmwood

nothing
exciting

little italy

decent at best

rich delaware, park dwellers &
rick's tally ho

promise

frat fuckboys

lasalle

black rock

forest

tough

quiet

upscale

urban renewal gone
wrong

refugees

historic

parkside

yoga & coffee shops

shops

grider

zoo people

hiroshima/nagasaki

gentrifying house
flippers

college students

yikes

heart of
buffalo

hamlin park

historic

fastly gentrifying

best place to
raise a
family

most dangerous
blighted

gunshots

schiller park

west side

d.a.r.e

masten

fruit belt

burmese immigrants

no amenities

mlk park

urban prairie

straight hood

creative types

allentown medical

bohemian and
historical

broadway market

nope

teenagers at night

clubs

lovejoy

mental cases

broadway-fillmore

pegula's fracking

zemsky-ville

ghost town
after 5
mtwthf and
on weekends

empire

downtown

depressing

kaisertown

old 1st ward

lacks residences

wife beater-wearing
xenophobes

the valley

wallet chains

alchoholics

the triangle

porn shops

south park

the land that time
forgot

"youse" guys

| total occupied housing units

— percentage of white population in an area

+ tourist attractions

10.   Diagrams of Buffalo, New York

I decided then to create diagrams both isolate information and layer everything all at once. For these diagrams, I wanted to utilize cognitive mapping, since it is crucial for navigating the cultural logic of late capitalism, and its close-up processes of social observation and ethnographic description can complement the GIS maps of an area. To do this, I looked for geo-referenced data on Buffalo. Geo-referenced data based on the built environment, are now available on the internet, and are becoming a part of an individual's experience of places. Perceptions of places in neighborhoods are no longer based simply on a person's sensory experiences or cognitive map, but are also based on the geo-referenced information that one chooses to look at. I found discussion threads on Reddit where people contributed their perceptions of the different neighborhoods in Buffalo, NY, found tourist maps that were helpful in revealing the commodification of the local environment and history, and found architectural summaries for each of the Buffalo neighborhoods.

From all of this, I made diagrams that isolated each set of data. I also made a diagram that continuously layers all of the information found. This diagram, as well as all of the other diagrams, is accessed via a website so that the information can be available to everyone. The diagram begins with layering the ethnographic data compiled from Arc GIS. The information is layered on topographical information and neighborhood boundary lines also compiled from GIS. It then layers the narratives of the city taken from the Reddit discussion thread. Finally, it shows the most common architectural type for each neighborhood, and breaks down these types into its components. These components can be a starting point for diagrams for the purpose of contextual counterpoint design.