Pushing the Flat City:

An Enquiry into Methods for Representing Exurbia

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INTRODUCTION

The contemporary exurban city is challenging to represent in analytical terms. Since the eighteenth century common figure-ground drawings have dominated the way in which architects and urban designers have dialectically understood the collective built environment. While not entirely obsolete these methods are at best inadequate for understanding the less dense, and semantically nuanced exurban environment. Exurbia's de-compressed spatial "flatness", its lack of both formal and semantic hierarchical significance and its unfamiliar concept of "fabric" suggest a need for modified ways of graphically bringing issues into a useful "field of visibility".[1]

The effectiveness of developing such a drawing type is based on being able to conditionally agree on and then graphically asses issues facing the physical and social geography of these environments. Most exurban space and programmatic relationships occur at scales too vast to be understood by the human body; the scale generally considered most effective for applying conventional figure-ground drawings. In addition, the most engaging suburbs and their post World War II descendents "exurbs" are the result of irregular formal strategies that prioritize temporal connections. Compared to historically dense cities these are frequently less hierarchical, in spatial and symbolic terms. It is not a coincidence that exurbia's "equalized" and un-hierarchical formal characteristics are the same qualities, which contribute to much of our ambivalence towards these environments. Our seemingly contradictory reaction to the subject is caused by exurbia's picturesque and modern beauty on one hand and its reading as a field of ubiquitous "sameness" comprised of atomized, and civicly withdrawn form and space on the other.

AXONOMETRIC PROJECTION

Axonometric and isometric projections are drawing types that may begin to address the inadequacy of conventional figure-ground drawings to represent the exurban environment. In particular the axonometric is an easily constructed three-dimensional projection, which favors in-scale measurable information enabling the analysis and the subject(s) of the drawing to be congruent.[2] They are both flexible and precise, allowing them to accommodate a broad range of descriptive and conceptual issues.

Axiomatic drawings were first used by military engineers in the early Enlightenment in the design of urban fortifications. In the nineteenth century the drawing type was used by industrial engineers as well as by architects and theorist such as Auguste Choisy. They depicted the technical or architectonic components and their subject's assembly and resulting spatial configuration.

Axonometrics were used for somewhat different reasons in the twentieth century. In particular, Lissitzky and van Doesburg used axonometric projection to present separate and often distant places in scale with a minimum of rupture. [3] Flat surface and space are represented simultaneously. What had previously been seen as a negative quality, the representation of fluctuating ambiguous space, was now seen as a positive characteristic.[4] Because axonometric projection combines the characteristics of both vertical and horizontal information simultaneously, the drawing has the potential of offering fluctuating a reading between both "subjective" culturally symbolic information and "objectively" metrically precise form.[5]

The manipulation of a surface to read as "folded figure," whether at the scale of the room, building

or the city is arguably only an interpretation of the common figure-ground drawing. In most cases architects and urban designers, in particular Colin Rowe, Fred Kotter *et al*, have understood the term narrowly, as the depiction of spatial manipulation, primarily in plan, mass, poché and void. We have to look no further than Rowe's associate and earlier co-author Robert Slutksy to find a challenge to this limited notion of figure-ground. In his paintings, Slutsky seems to repeatedly make the point in his paintings that the manipulation of surface and field, in addition to mass and void, are also agents of the figure-ground. Furthermore critics such as Yve-Alain Bois and Rosalind Krauss maintain that the manipulation of *surface* is essential to collage as both an innovative "technique" and the modernist "subject" of collage itself.[6] This dual quality suggests that collage, and drawings that take on "collage-like" characteristics such as axometric projection, are key examples of the production of progressive twentieth century modern and postmodern art. The collages produced between 1912 -1914 of Pablo Picasso and Juan Gris are classic examples of the manipulation of surface as an object. In these works the viewer is given a characteristically "modern" and what Tom Brockleman in his book *The Frame and the Mirror*, would argue "postmodern choice," as to how to read the many fluctuating parts of a Cubist work of art.[7] This is important in representing both recognized and latent relationships.

It is tempting to suggest that something like Cubist collage would suffice as an alternative method for analytically representing and comparing various aspects of suburban and exurban communities. While certainly compelling, and even useful, collage in the orthodox form is not part of this study for at least two reasons: 1.) they are not metrically precise and thus considered poor when comparing issues in scale and 2.) they, as Rosalind Krauss points out, attack our preconceptions about the relationship between signified and signifier. This necessarily subjective semiotic play is overly biased and would make the subjects of the drawings too difficult to compare. Comparing the selected communities more or less "objectively" is one of the principal intentions of this research. The issue of graphic representation itself is an essential but secondary aim in this effort. This project's reliance on the axonomtric attempts to address these two deficiencies of collage yet, at the same time use the drawing type's "collage-like" characteristic of

oscillating reading to represent, *in scale*, its latent structures of organization as well as its generative potential in formal and cultural terms.[8]

While collage is not used in this work, its' characteristics are still instrumental to the project. Exurban space has the potential to have a positive "collage-like" influence when its elements are seen in relational terms. In her recent book *Suburban Space: The Fabric of Dwelling*, Renee Chow describes the suburban lawn as the primary ground or "fabric" that permeates the exurban built environment.[9]

Long cited for its symbolic significance, chow claims the "natural" surface of grass is portrayed and operates in an analogous way to the way the "neutral" but pliable volume, mass or poché one finds in a physically dense urban setting. *(fig. 2)* In both Chow's drawing and conventional figure-grounds, the technique is essentially binary, the open space and mass is rendered in black and white.[10] In most cases Chow's drawing and the conventional figure-grounds are made at the scale of the room, building, lot and street. Such drawings are extremely useful for understanding relationships between principal building-space and adjacent site-space. The axomometrics in this project use a similar strategy but cast the shape of the space and form in three dimensions. *(fig. 3)* By pushing the plan up, even slightly, its surface fabric can be read as an object. This allows the drawing to represent depth in scale and suggest, in particular, spatial relations that are not necessarily limited by conventional vertical boundaries. Many of the significant locations in the exurban terrain are seemingly fragmented and spread over a vast territory comprised of parking lots, lawns and open land. Creating a type of "object-plan" is particularly helpful for representing potential relationships between discontinuous phenomenon in an otherwise rendered two-dimensional field. Delineating such environments with axonometrics has the potential for stitching together such disconnected events.

Axonometrics are also helpful in depicting common non-symmetrical, less Euclidean formal arrangement of exurbs. The frequent use of "picturesque" formal strategies place a bias towards irregular narratives that are often not visibly connected. Like destinations collected by a tourist, the identity of these far-flung events is created by manipulating our sense of time and memory. Things in such a context are principally distinguished by connecting

symbolic purpose, not formal or spatial relation. In such a setting each event develops in its own individual and separate identity. This is easier to do if the building and their sites are detached from one another. It is one of exurbia's biggest ironies that the enormous effort made to distinguish a building's distinctive identity in the built environment, at the scale of the yard and building, should contribute so strongly to its' relentless uniformity.

Committing to the axonoimetric as a drawing type for this project is not without a degree of compromise. No diagram or drawing type is value free. As mentioned previously, a conventional use of collage, though problematic, can be seen to answer to conceptual deficiencies of axonometric projection. Collage could in fact not only acknowledge, but embrace, even valorize, the subjectivity of the exemplar and/or the point of view of the person constructing the drawing.

There are also practical problems with using axonometrics. For instance, selecting the angle of projection and the side from which to take a view, etc., can affect the drawing's readability. Foreground figures can easily block the projection of background information. This can be addressed somewhat with dashed lines and/or wire frame projections. One imagines the problem can also be solved by constructing a hybrid drawing, one that includes a combination of projections such as; plan and axon, axon and indexical symbol, perspective and axon, etc.

FOUR EXURBS: BACKGROUND AND ASSUMPTIONS

Riverside, Illinois(1868), Shaker Heights, Ohio(1903), Radburn, New Jersey(1929) and Greendale, Wisconsin(1934) are often cited by such scholars like Kenneth Jackson and Robert Fishman as influential in the evolution of the contemporary suburban and later exurban environments. Unlike most Post-War development that is the result of thousands of disconnected separate decisions, the four communities are examples of development in which land and movement systems, as well as collective program, are all conceptually and compositionally integrated. It can also be said that these examples represent a significant set of moments in the social and cultural evolution of the pre-World War II suburb. These four projects represent an

extremely useful look at the development of an essential alphabet of myths, expectations and resulting formal strategies. In broad terms, development after the Second World War would borrow, transform and re-inscribe, *al be it* in diluted form, most of the intentions and much of the language of their Pre-War predecessors.

In the nineteenth century picturesque cemeteries, parks and suburbs, the creation of temporal and scenographic relationships within a natural setting were increasingly the principal means for establishing cohesive collective natural environment. The urban historian, David Schuyler characterizes early suburbs as "residential parks" and as such are part of a larger family of urban landscapes that evolved over the course of the nineteenth century America.[11] Nineteenth century cemeteries, parks and suburbs drew on mostly British eighteenth century aesthetic theories that use picturesque compositional principles of landscape painting and design. Informed by existing or constructed natural features, the irregularity of the composition encouraged greater "variety of surface and a feeling of size."[12] The image and meaning of large undulating pastures was so important an idea and technique that when the picturesque was adapted to aggregated domestic settings, the use of fences was discouraged so that there be, " the appearance of a single very large residential estate."[13] As a collective narrative, picturesque nature was seen as a virtuous and suitable realm for the emerging bourgeois nuclear family, a social unit that unlike extended families, relied more on emotional ties than economic and political relations between members of a village or extended family. In all these cases the open yet managed landscape was regarded as "morally superior" and a source of collective identity for the middle class nuclear families that inhabited it.

DRAWING TYPES:

The issues the projections of this project examine are; "shared open land space," "movement systems," "collective program" and "hybrid relations." The purpose in this effort is not to create an exhaustive nor even a definitive set of issues and related diagrams. The intention is to create a analytical method that is easy and relatively fast to produce and begins to examine common subjects found in many residential exurban settings. I have neither

tried nor succeeded in providing a complete evaluation of the drawings or suggest that the drawings themselves offer a comprehensive evaluation of the subjects they depict. Ideally this method will be modified to examine typical Post War exurban environments. At best these drawings when combined with each other, or characteristics of other drawing types, have the potential of playing with, even constructively disrupting, our expectations of these environments. This produces a form of re-thinking existing and potential relationships in these environments. This is particularly important if we are to imagine, eventually build, (and in many cases remedially consider,) contemporary exurbia as a comprehensively planned part of the postmodern metropolis rather than retreat from it.[14]

SHARED OPEN LAND SPACE

More than any single characteristic, green lawns of mowed grass are seen as the distinguishing and unifying feature of the exurban built environment. As indicated before this surface can be understood as, what Renee Chow describes as, "fabric." This undulating figure needs to be collectively understood and seen to be capable of stitching together the potentially fragmented parts of a community. In all four examples there are significant shared landscapes or parks. The cadastral boundaries are visually blurred, if not repressed. This encourages a reading that private parcels appear to be part of a shared "open park"; an idea first proposed by John Nash for the villas in his design of London's Regents Park. For the most part the shared open land space of the residential suburb has followed Olmstead's precepts. First used in Riverside, he an Vaux call for natural elements in residential settings to be used to generate a more "secluded" character than as elements used to produce the more sweeping spacious "greenswalds" his city park designs. As a result the natural character of Riverside is distinctly more introverted than its parent project Central Park. *(fig.4)* Riverside's shared open land space's are much smaller and discretely strung along the winding Des Plains River, roads and walks and as such intimately and seamlessly inter-connect residential buildings, their yards and town parks.

This in large part has to do with Olmsteads bias for conceiving picturesque nature as a site for reflective contemplation rather than exertive recreation. It is important to note that this concept would eventually be reversed in most Post-war suburbs where collec-

tive open space is most often seen as a shared and specifically programmed recreational zone.

Approximately thirty years later Mantis James Van Swerinngen's Shaker Heights project exhibits a similar use of shared open land space. (fig.5.) The turn of the century project is heavily influenced by Ebenezer Howard's Garden City principals. In particular the suburban community is seen as an escape from the disagreeable aspects of the center-city of Cleveland and as an agent of social reform that was intended to cross class lines. Shaker Height's local park system is part of a large necklace of green space designed by Olmstead's firm, which arcs completely around the center of Cleveland metropolitan area. Unlike Riverside, geometry is frequently used in Shaker Heights plan, operating as a set of idealized forms nested in a predominately a picturesque field. Smaller geometrically organized parks become the neighborhood greens and/or are the sites of neighborhood schools. These spaces are connected to the principal irregular landscape parks and tree lined parkways. Running from northwest to southeast, the large centrally located park landscape divides the community into two. The larger lots are to the north and generally inhabited by economically affluent residents. The denser smaller lots are in the south of this landscape, organized around the town's primary commercial street and are generally occupied by those with more modest incomes.

Radburn and Greendale (fig. 6.) were built within ten years of one another, the former influencing the design of the latter and its companion New Deal developments of Greenbelt, Maryland and Greenhills, Ohio. In both cases there is a distinct attempt to inter-relate the shared open land spaces with small semi-private and private open spaces. Like Shaker Heights, these green spaces are more than mere parkland. They often become settings for schools, civic buildings and recreational facilities that are distributed in an oblique and picturesque orientations to their respective sites. These structures are frequently rendered in traditional yet very different architectural languages from one another. While the product of a certain range of taste, this stylistic independence also seems to make the buildings read as pieces of urban scaled furniture free to seemingly "move about" on the pliable surface of the town's collective lawn. Drawing these urban landscapes as surfaces permits the viewer to see the territory as a developed horizontal plane that

folds out of, into, connects and interpenetrates all parts of the community. Even more than Riverside and Shaker Heights, the shared open land spaces of Radburn and Greendale reinforce the idea that these "collective lawns" are the principal organizational structures for the projects' space and structure and are also the primary source of their collective identities.

MOVEMENT

It is ironic, on one hand, that people have historically fled to the suburbs to escape, among other things, the negative aspects of technology and industrialization, and on the other, fundamentally rely on technically intensive systems in order to economically and socially exist in these very settings. This is particularly true of historic suburbia's, and contemporary exurbia's, dependence on sophisticated movement systems. In the many Pre-war suburbs and in the examples presented here, parkway and commuter rail systems make necessary connections to their traditional city centers.[15] In Riverside and Shaker Heights parkways and/or commuter rail systems, in conjunction with the shared open land space systems, become principle organizing devices. In Riverside the commuter rail and river park systems interact to create an essential and public set of relationships that many other aspects of the community must relate to. (fig. 7+8.) This type of interaction is also evident when one produces a similar movement diagram of Shaker Heights where the dual parkway system to the north and commercial trolley line in the south playfully interact with the park system that drives from northwest to southeast through the community. In original literature and drawings, produced by Van Swerinngen's development company, these systems are often portrayed in very romantic terms. Winding paths, stone train stations, tree lined parkways are found in all the examples presented. In this essay they are dawn more conceptually; as three-dimensional meandering spines. These independent armatures attempt to more objectively measure the influence of the movement systems on the composition and organization of the community. The flatter abstraction of the analytical axonometric is able to minimize an overly sentimental interpretation of the system and start to gauge how they can, or do, metrically operate and inter-relate in their respective contexts. At smaller scales, movement diagrams also identify cadastral strategies as well as establish important temporal and spatial narratives between their parts.

(fig 9 + 12.)

In all four examples, regional movement systems, comprised of commuter rails and multilane parkways, are essential to establishing a compositional strategy for the design of the towns. In addition to community-wide vehicular networks in each example, a series of lanes, cul de sacs and pedestrian systems are introduced to interconnect various parts of each community at different scales. They are also used to manage conflicts between pedestrian and vehicular traffic. Clarence Stein's plan for Radburn is the most aggressive at separating the two forms of traffic. This foot system uses a series of underpasses to avoid crossing the development's parkways. The sophisticated public system of paths also connects individual houses to the shared lawns and braids the distant reaches of the community with each other and the commercial center. While not as intricate, Greendale also uses a series of paths to connect the various neighborhoods with the town's commercial and community buildings.

COLLECTIVE PROGRAM

The collective program of exurbia is the most difficult and diverse aspect to draw, but it is perhaps the most influential when describing these projections as a form of thinking about what these communities are, or could be, in terms of their cultural functions. The various programmatic purposes of a community can range from the mythic to mundane, and are both consciously and unconsciously the result of priorities of the developer, designer and society, which conceive and use the project. Mapping planned and unplanned social, symbolic and functional relationships can be a slippery activity because their visualization does not necessarily conform to, or is bounded by, the shape of the space it occupies. In many cases these diagrams offer an alternative and invisible frame for reading that space. Because of this, the ideal programmatic diagram embodies values without resorting to strong icongraphic or formal readings.[16] In effect such a diagram is a picture of selected "social fields" that exist and interact on the site.[17] These can be explicit or merely be comprised of "traces" which are either generative of new form and social relation and/or emerge from previously repressed inarticulated figures.[18]

Comparing the convergence of collective program of Riverside and Radburn is useful at this point. (fig

10 +11.)In Riverside collective functions and natural features like the railway station, the Des Plains River park system, the proposed parkway system and a set of public buildings, (water tower, library and town hall) and commercial functions concentrate in the center of the community. This creates a dynamic open space of converging public purpose, movement, space and identity. In contrast, Radburn's shared meadows, also its primary source of collective identity, combine fewer and more sedate programs of school, swimming pool and open lawn. The commuter rail station, higher speed parkways, and commercial activity are outside this sanctuary, located on the perimeter of the project.

It remains to be seen if axonometric projection is the most viable method for depicting programmatic relationships. One can easily imagine a notation that combines figure, symbol, with text, grounded in pliable topographic form or pattern. Such a drawing would begin to create an equivalent set of associations between the elements of the drawing that can evoke credible and poetic associations between form and social relations. As mentioned before, perhaps the "subjective" flux of a more conventional collage technique is more useful as a means of representing the multiple uses, readings and shapes of a given set of functional and cultural relationships.

HYBRID RELATIONS

Diagrams that depict hybrid relationships are by far the most open ended and promising of the four types presented. This set takes advantage of the fact that there is never a one to one relation to between diagram and resultant form. Hybrid diagrams are an attempt to represent more than the mere formal structure of a particular issue and strive to present an elastic set of relations between the three other issues examined in this project. Their "super-positioned" figures depict co-existent systems and include a range of seen and unseen subjects.[19] Unlike the "resolved" whole of a design's composition, the issues depicted can even conflict and often occur at different scales, rhythms and relations.[20] This suggests that hybrid diagrams are the most abstract, but also the most anticipatory, of the graphic devices able to make visible a particular set facts, or relationships for representing or re-thinking links between systems.

In the hybrid diagram of Shaker Heights for instance, the super-position of the movement systems, shared open land space and public program reveal a series of latent geometric and programmatic relationships. (fig. 12.) One of the most intriguing is the subtle connection of secondary streets that stitch the commercial, and economically modest, residential sector in the south of the community to the more open and affluent zone to the north. A hybrid diagram of Greendale reveals that its public and commercial functions are nested in the heart of the project, yet are still connected to the periphery of the community. This is achieved through a series of smaller scale pedestrian paths that connect to the expansive shared landscapes and scattered public structures that link with spaces and public program in the outskirts of the project. (Fig 13.)

As with all diagrams, abstraction permits the hybrid diagram to operate in both structural and symbolic ways pointing out and thinking about social practices and form that are not easily discernible, nor necessarily spatial in nature. The axonometric is an effective tool in this case in that it is metriclally consistent, flexible and allows for multiple readings within and between the issues under investigation. This is important because we not only need to represent space as defined by position and direction but need to depict space in terms of shared cultural narratives and value.

SUMMARY

The analytical project presented represents an incomplete work and this article about them is an attempt to develop the ideas behind the projections by writing them down rather than constructing a definitive argument. Ideally this research project is an attempt to find a credible and comparative notational language for describing and thinking about a type of built environment that seems to resist graphic description. This lack of a common visual analytic vocabulary is arguably playing a role in keeping the diffuse "edge city" from being designed and managed in compelling and socially sustainable ways.

Axonometrics have many advantages over plan drawings. In particular, they are able to mitigate some of the shortcomings, of the overly binary nature of plan-a-metric figure-ground drawings. By "pushing-up" the plan the axon can make the surface an object, thus combine horizontal and vertical

information. The drawing can begin to throw subtly contrasting figures into higher relief making their subject and issues more legible to the viewer. This kind of taunt bas-relief has the advantage of quickly giving the projection a greater sense of depth. At the same time as it pushes up the horizontal information it pushes other, potentially overly fragmented graphic information back into its surface. This gives the axonometric a necessary conceptual and representational ambiguity similar to collage but in a somewhat more "objectively" measurable and useful form. These drawings, in effect, offer an in scale means to work and think critically and creatively, on the language of exurbia in both analytical and generative modes.

Finally designers of the built environment have to remind themselves that while truly "analytic" drawings are never value free, they should attempt to describe and speculate on culturally measurable and/or identifiable relations. They should not be constructed merely to create an "artificial and romantic aura."[21] It is easy to make the drawing type itself the subject rather than the topics they attempt to represent. The late Robin Evans commenting on the axonometrics of John Hejduk and Peter Eisenman in the early 1970's, warns that their axonometric projections seem to be mainly about the drawing itself and the flatness of the paper. [22] While arguably a number of the drawings in this project are compelling compositions, they attempt to avoid this trap. On the other hand, one has to admit they also take advantage of the axonometric's lure. For it is precisely the fluctuation between depth and flatness, that Hejduk and Eisenman take advantage of, that give their drawings, and arguably the diagrams of this project, their analytic and intellectually generative instrumentality; their ability to represent and think speculatively about their subjects. In conclusion, architects and urbanists need to be inventive and push the potential of drawings to propose powerful, plausible new, or even remedial, solutions to address the contemporary built environment. But they also need to keep in mind that the built environment is not mere information. These drawings should not be seen as a type alternative to architecture, urbanism, or meaning rather as instruments of alternative visibility for representing, thinking and constructing socially supportive and inter-related phenomena in the collective built environment.

NOTES

1 Evans, Robin. "The Developed Surface: An enquiry into the Brief Life of an Eighteenth-Century Drawing Technique," *Translations from Drawing to Building and Other Essays*. MIT Press. (Cambridge Ma., 1997), pp. 199.

2 Somal , R.E. "Dummy Text, or The Diagrammatic Basis of Contemporary Architecture," *Diagram Diaries*, Eisenman, Peter. Universe Publishing, (New York, 1999.) pp. 16.

3 Evans, Robin. "Architectural Projections." *Architecture and its Image: four centuries of representation: works from the collection of the Canadian Centre of Architecture*. Canadian Centre of Architecture, Montreal, Quebec. Distributed by MIT Press. (Cambridge, Ma. 1989.) pp. 32.

4 ibid.

5 Somal, pp.15.

6 Krauss, Rosalind, "In the Name of Picasso." The Originality of the Avant-garde and Other Modernist Myths. MIT Press. (Cambridge Ma., 1985). pp. 33.

7 Brockelman, Thomas. *The Frame and The Mirror: on Collage and the Postmodern*, Northwestern University Press. (Evanston, Illinois. 2001.) pp. 2., pp. 10.

8 Eisenman, Peter. Diagram: An Original Scene of Writing," *Diagram Diaries*, Universe Publishing, (New York, 1999.) pp. 27

9 Chow, Renee. *Suburban Space: The Fabric of Dwelling*. University of California Press, (Berkeley, Ca. 2002) pp. TBA. This detachment between building and site suggests an ornimentalization by buildings and landscape of the flat plan condition, a condition Chow's figure-ground drawings attempt to remediate. Each element is presented as a symbolic entity maintaining its own individuality. At the same time these figures are "flattened" against the "fabric" of its collective green surface. The casual relationship between symbolic form and collective surface arguably contributes to the superficial "easiness" of exurban architecture. There are limits to this contention: porches, bay windows and other ornament are means of projecting the object-ness of a building into its immediate site, symbolically animating its neutrality. Note unlike many classical buildings who's mass is often eroded to make spatial connections to their sites, exurban buildings are usually objects themselves that are additive to the basic box-like digit of its structure.

This is especially true well when the vertical surface of the building is read as thin and taunt.

10 Brockleman. pp. 160.

11 Schuyler, David. *The New Urban Landscape: Redefinition of City Form in Nineteenth-Century America*. The Johns Hopkins University Press, (Baltimore, Md.: 1986.) pp. 157.

12 Ibid. pp. 159.

13 Ibid.

14 Ibid. pp. 166.

15 After the Second World War the less picturesque interstate system created a web of interconnections with other comminutes around the perimeter of metropolitan regions. This transformed movement systems from being umbilical connectors to web-like systems which link points in space with little regard for traditional urban centers.

16 Somal, pp.19.

17 Eisenman, quotes Deluze, pp. 30.

18 Eisenman, pp.27.

19 Eisenman, pp.29.

20 Allen, Stan. Points + lines: Diagrams and Projects for the City. Princeton Architectural Press, (New York: 1999.) pp. 8.

21 Evans, Robin. "Not to Be Used For Wrapping Purposes: A review of the exhibition of Peter Eisenman's *Fin d'Ou T Hou S* shown at the Architectural Association, London." *Translations from Drawing to Building and Other Essays*. MIT Press. (Cambridge Ma., 1997), pp. 143.

22 Evans, Robin. "Architectural Projections." pp. 32.
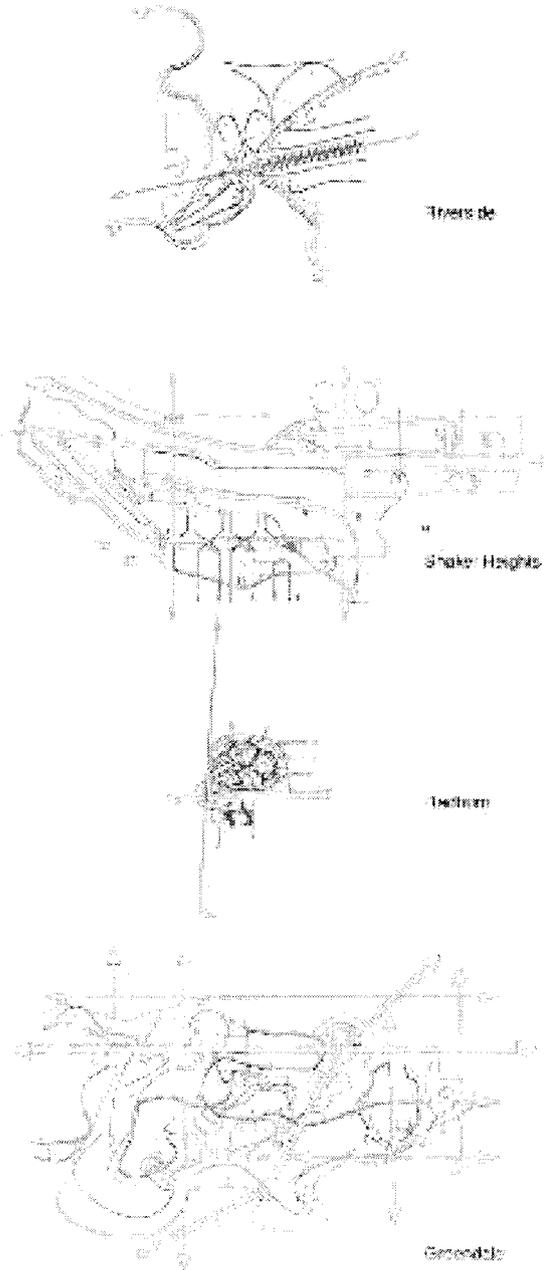
IMAGES

Figure 1. Hybrid Axonometric Diagrams: Riverside, Shaker Heights, Radburn and Greendale.
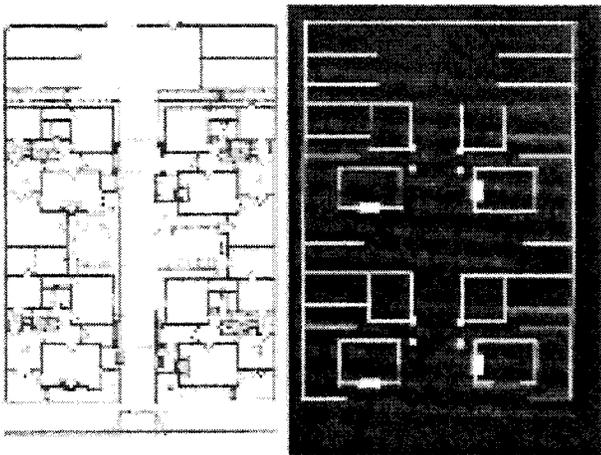
Figure 2. "Horatio West, figure-ground, " Renee Chow.
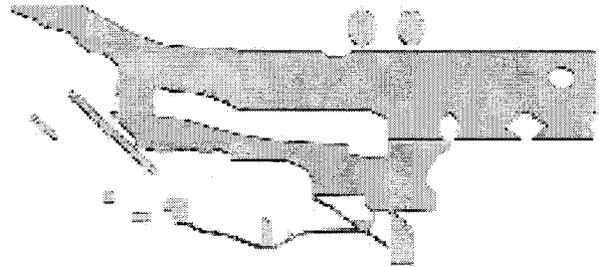
Figure 5. Shaker Heights: Shared Open Land Space.
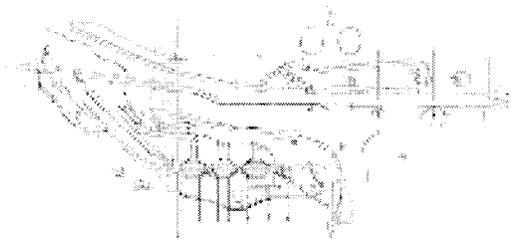
Figure 3. Shaker HEights: Hybrid Axonometric.


Figure 4. Riverside: Shared Open Land Space.

Figure 6. Radburn and Greendale: Shared Open Land Space.
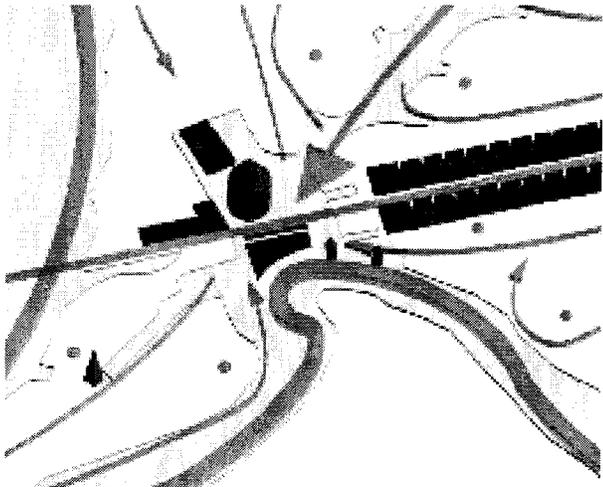
Figure 7. Riverside: Hybrid Detail.
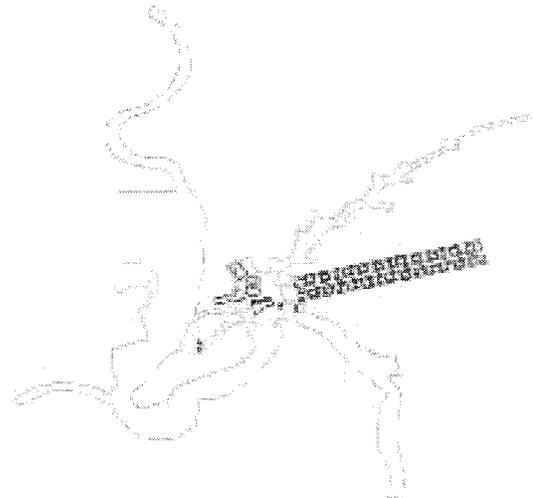

Figure 10. Riverside: Collective Program.
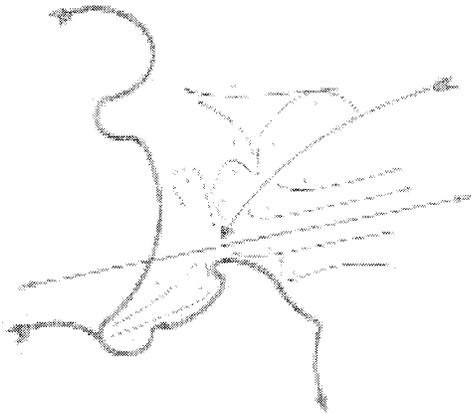
Figure 8. Riverside: Movement.
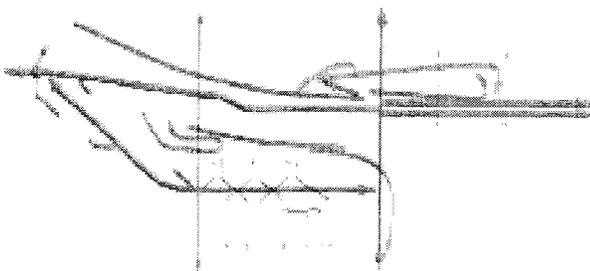
Figure 9. Shaker Heights: Movement.
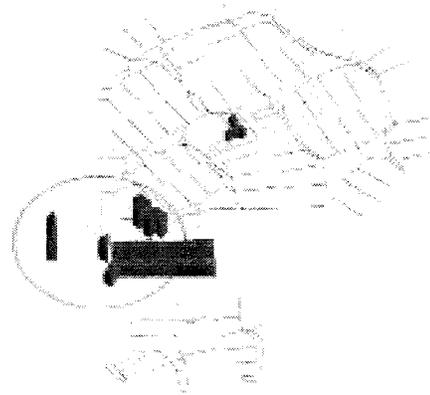
Figure 11. Radburn: Collective Program
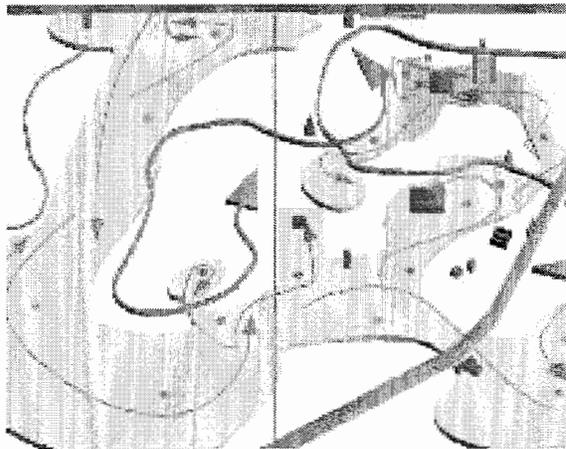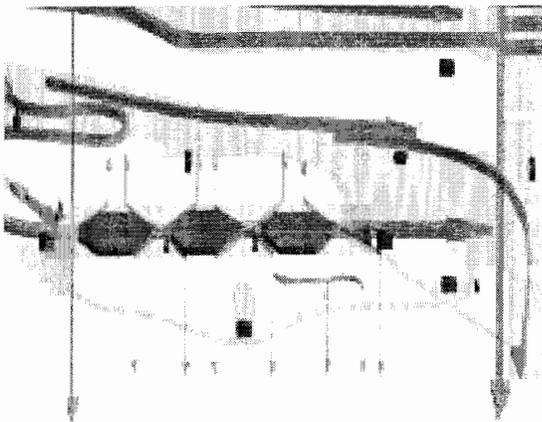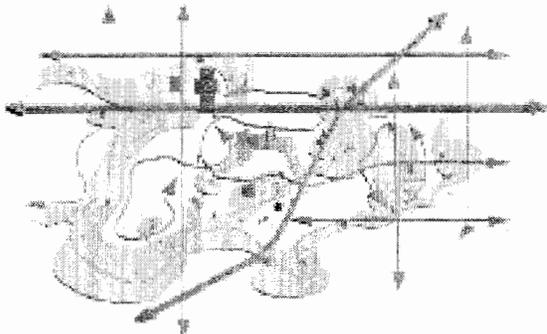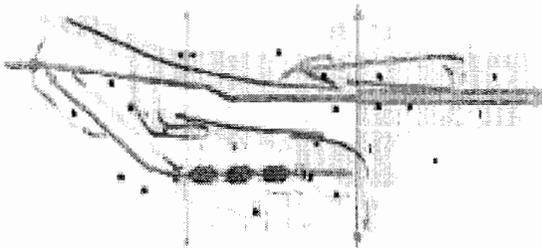
Figure 12. Shaker Heights: Hybrid Diagram and Detail.

Figure 13. Greendale: Hybrid Diagram and Detail.
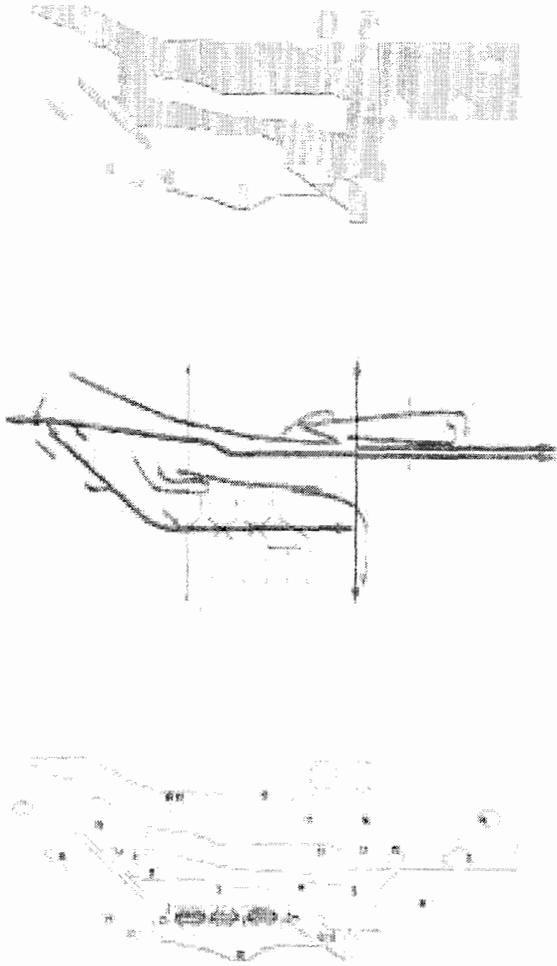
Figure 14. Shaker Heights: Shared Open Land Space,
Movement, Collective Program and Hybrid Detail.