On the Agency of Architecture in Contemporary Public Education

Officials of public education in the US are advised against enlisting architects to prepare school district master plans. As an influential educational planner warns, architect-prepared plans include "a lot of generalizations about community development, industrial growth, and land use plans" featuring "schools, land zoning, utility lines, and road networks" which act as "window dressing" to justify building projects.[1]

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Instead, we are told, school district planning should be based on a continuous evaluation of demographics, facilities, and programs offered; and the architect's role should be limited to assessing existing facilities and producing building projects on precise briefs.[2]

The planning of a large school district is certainly a complex problem requiring participation from many administrators, consultants, and the public. However, the dismissal of the architect's purview serves to isolate the burdens of urban and spatial friction from the process, rendering it exceedingly utilitarian. As such, it has three major shortcomings. First, it prevents the planning process from addressing crucial urban parameters vis-à-vis the building scale in a synthetic manner. This is puzzling, as a school district is a uniquely organic network: the configuration of the component, i.e. the school, has a very direct relationship with the larger system. Second, given its reactionary logic, it overlooks the potential of schools to attract and direct urban development. Third, it lacks procedural resilience in its failure to address important public, political, and administrative factors. School building practices are highly vulnerable to policy swings, availability of funds, and public demands. In fact, if the intent is to pin the responsibility for poor planning practices on architects, the charge seems misplaced. The evidence shows that local governments tend to take on school construction projects beyond their needs as soon as the funds are available.[3]

The model's prescriptive attitude makes it a suitable tool for the era of shrinking public budgets and increased accountability, in which schools are prone to drastic modifications and closures depending on enrollment and achievement levels. Symptomatic of reformist education policies, this approach essentially treats schools as narrowly-focused academic vessels freed from their long-established urban obligations. The school district ideally functions as a so-called portfolio of schools, the organizational logic of which is predicated solely on procedural

parameters, such as performance criteria, enrollment distribution, and choice schemes. As I will discuss further, a growing body of scholarship points to the adverse effects of this mode of planning for overlooking the socio-spatial context of education.

This paper explores the architect's agency in the conception of public education and openings for constructing a deliberate conceptual framework to address contemporary procedural and urban factors in education. I will first sketch out the tenuous position of the architect in responding to divergent policies and politics within the education debate, and then provide a brief overview of post-World War II design research on educational facilities as a precedent for contemporary practice. I will end with a discussion of two collaborative design experiments involving educators and architects, seeking to move beyond prescriptive school building practices.

THE PUBLICNESS OF PUBLIC SCHOOLS: RETHINKING TRADITIONAL MODELS

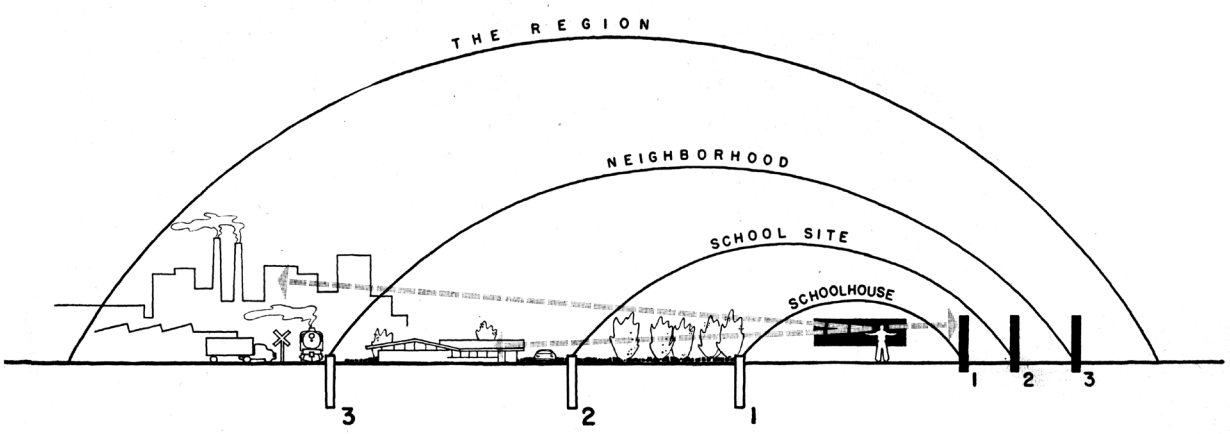
Sociologist Fran Tonkiss suggests that spatial concepts we value in our cities are essentially a reflection of the social objectives of a democratic society. Accessibility, porosity, and openness are all qualities we want to have, not only in our socio-political sphere but also socio-material realm.[4] Following Tonkiss' lead, we can envision our public schools to function the way we imagine our public education should. However, this is a complex proposition, given the wide array of contradictory notions on the priorities and delivery methods of public education today.

Essential delivery means of public education, such as resource distribution, student assignment procedures, and school-sending district models, are all matters of bitter debate. While there is a wide variety of nuanced arguments, these notions can be broadly categorized into two groups in terms of their inherent urban conceptions, namely economic development-focused and spatial equity-based approaches. The first approach is best characterized by the competitive city discourse which emphasizes an idealized conception of schools as autonomous urban assets. Critical of traditional district models, it envisions the schools functioning within a market-like condition. At its most extreme, this attitude endorses disinvestment in distressed urban districts,[5] and at its more compelling, it points to the continued impact of schools on how families choose to locate, even in open choice districts.[6]

The spatial justice approach criticizes the notion of the urban asset, and emphasizes the anchoring role of schools for urban communities. Pauline Lipman, for example, notes that abstracted urban asset conceptions facilitate neoliberal restructuring of cities, and the only way to tackle the root causes of achievement gap is a redistributive policy within which public education is a constitutive part.[7] The work of Jean Anyon focuses on the idea of "spatial mismatches" and calls for well-coordinated public transit routes and affordable housing as integral components of an equitable education policy.[8] Although intended to achieve different goals, increased mayoral involvement in educational matters has further integrated schools within larger urban processes, paralleling Anyon's intuitions.[9] Common to these divergent perspectives is the recognition that procedural composition of public education has significant socio-spatial implications, affirming the enduring importance of spatial parameters in public education today.

All of these emerging conditions and debates make up the political minefield that is the contemporary public school project. The current lack of broadly accepted

Eliminating Barriers



114. One of the most significant developments in school planning which has taken place these last few years is the tendency towards eliminating barriers. Years ago the school was conceived in terms of a thick-walled cube subdivided into classrooms, punched with a few holes for windows and doors, and situated in the middle of a bare cinder city block. Only recently the school planners have come to think not so much of the school building as of the school plant. Now, by definition, the school plant takes in not only the building but also the grounds. The definition itself has eliminated the barrier between the enclosed cube and the grounds, but developments of architecture also have helped eliminate the barrier. Instead of having thick masonry walls which separate inside space from outside space, we now have, in many cases, glass walls which pull the two spaces together. The elimination of these barriers extends beyond the school plant, visually as well as physically. There is a definite trend towards placing school plants adjacent to parks. Not only physical and visual barriers are eliminated, but also political barriers. There are some city plans which provide for the school-park to open directly on residential areas. The diagram above illustrates this trend. The barriers between the schoolhouse and the school site (1), the barrier between the school site and the neighborhood (2), and the barrier between the neighborhood and the region (3) have been dropped in current city planning practices as shown in the left of the diagram. What does this mean in school planning? It simply means that schoolhouses cannot be planned independently of the site or the neighborhood or even the region.

policy mainstays–progressive ideals, principles of equity, etc.–make it unviable to conceptualize the educational facility as a purely mechanical problem, compelling architects to rethink traditional models.

American urbanists have long conceptualized the school as an anchor program, categorically dependent on residential uses. Where and how to place the school and how to link it with the city in a meaningful way have been central questions in the shaping of American urban ideals since John Dewey's *the School and Society* of 1900. From Clarence Perry to the New Urbanists, the school-sending district has ideally overlapped with an actual physical district defined by an edge and a center. This static understanding is still the dominant manner in which architects conceptualize the public school. This is despite the fact that this approach proved unable to deal with the heterogeneous nature of the American city. For example, as early as the 1970's, the surplus space problem was a major issue for urban school districts. To be sure, there were compelling attempts in architecture to address the urban and demographic incongruities well into the 1980's. Very little has been produced since then to reassess how schools fit within the emerging urban phenomena, contributing to the shrinking agency of the architect in the conception of public education.

POST-WORLD WAR II DESIGN RESEARCH ON SCHOOLS

Post-World War II engagement in the planning and design of educational facilities was crucial in developing tools of architectural practice such as predesign research and programming.[10] Such tools were intended to address the emerging educational needs of the postwar years within a collective framework of design

Figure 1: Diagram from William Caudill, *Toward Better School Design* (New York: F.W. Dodge Corporation, 1954): 117.
CRS Center Archives, College of Architecture, Texas A&M University

research, deliberately taking on major urban issues such as demographic indeterminacies, urban revitalization and development, urban integration of educational processes, and even racial segregation.

As early as the 1940's, the architecture firm Caudill, Rowlett, Scott (CRS) set the standard by incorporating research on educational facilities within their practice.[11] From early on, the firm potently formulated several research categories adopted by their contemporaries, such as classroom composition and common spaces, community ownership and funding models, potential for growth, and environmental factors.

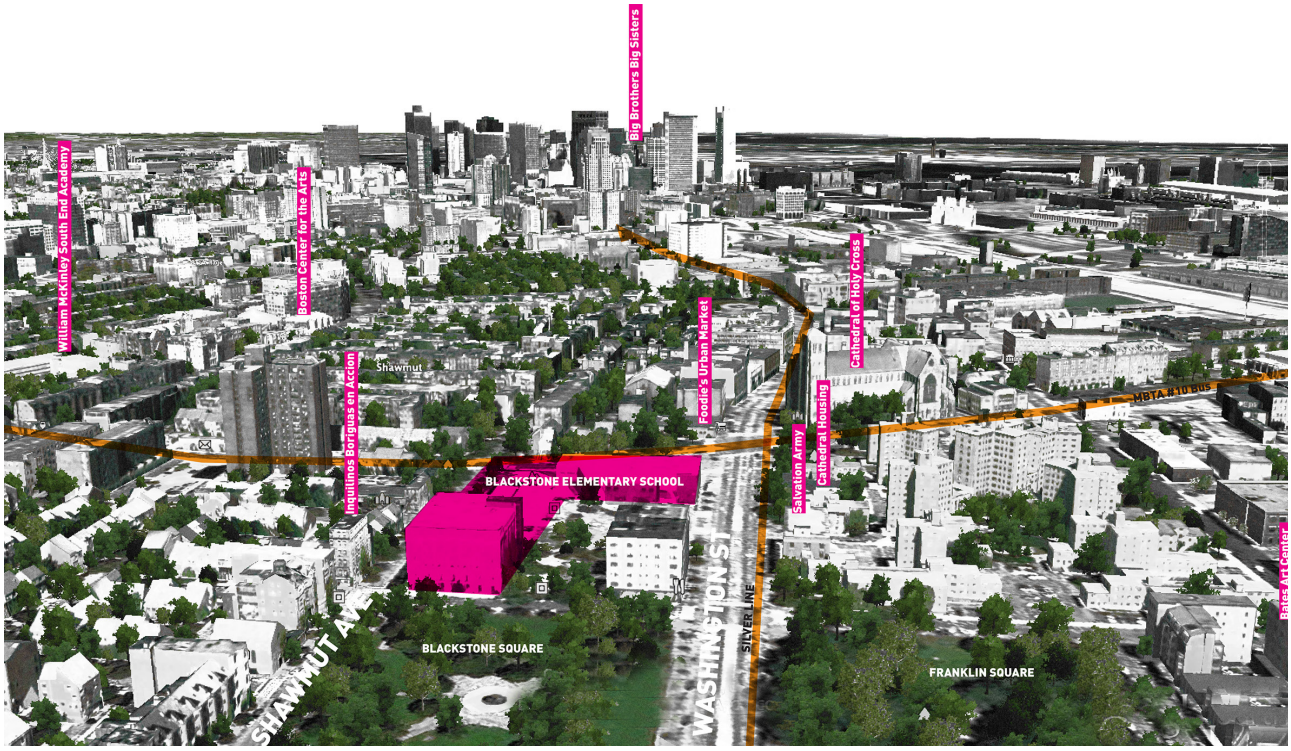
For C. William Brubaker of the architectural practice Perkins & Will, the school building practice was ideally embedded within larger urban processes.[12] Brubaker's interest in seamless integration of school facilities within the city differentiated him from his peers. He proposed a wide range of compelling strategies such as retrofitting office towers with schools and combining small high schools with other urban uses.[13] These were prescient and effective ideas for dense metropolitan areas such as New York City, where land scarcity necessitated co-habitation of different uses.

Founded in 1958, incidentally a year after the Sputnik crisis which spurred a renewed public interest on matters of education, the Educational Facilities Laboratories (EFL) built further on these provocations. A nonprofit corporation involving a large group of stakeholders including educators, government officials, and industry leaders, the EFL shaped a comprehensive agenda for delivery of education.[14] Until its dissolution in 1986, it remained influential by producing highly pragmatic guides on a variety of topics such as educational planning, temporary building methods, and effective interior layouts.[15]

These collective efforts led to inventive procedural, spatial, and institutional schemes. The widely-discussed idea of education parks was celebrated as a means to move beyond the segregating effects of rigid district models. The ideas of occupying unusual city sites and combining disparate uses were considered to be innovative urban strategies by planners and educators alike.[16] The design process became more complex and inclusive, expanding the traditional patronage models by incorporating research and advocacy.[17] In the final analysis, albeit with mixed results, this generation of architects sought to formulate holistic spatial concepts seeking to enable ambitious socio-urban scenarios. Through these efforts, they developed a disciplinary disposition which willingly delved into the so-called black box of education and the emerging urban phenomena.

The postwar architects' effectiveness was in large part thanks to a grand alignment of stable policy ideals and administrative models within which public school districts served as eager partners. However, from the 1980's onward, reform pressures implicitly and explicitly enervated this stable framework and the traditional school-sending district. By this time, there was a significant oversupply of school space due to the shrinking urban population. Fragile constructions built on tight budgets, postwar schools became familiar fixtures of declining urban cores. They also came to characterize the education premises under scrutiny, as the equity-based ideals were replaced with an emphasis on the adequacy of education.[18]

Fittingly, an introverted form of building-scale design inquiry became the dominant mode of investigation through repeating themes such as learning communities, sustainable schools, and future of the classroom. Given the lack of



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a concerted effort to effectively and critically address the larger impacts of the reformist pressures on public education, this limited emphasis contributed to the constrained agency of architecture in responding to the increasingly complex set of policies and trends. In fact, the very effectiveness of the practice tools developed in the postwar era contributed to this increased obsession with the building scale. The programming process, for example, allowed for the school architect to sidestep the question of indeterminacy in order to establish a reductive set of design parameters. Systemic construction and classroom-centric approaches enabled inside to outside design approaches, leading to analogous responses to disparate urban conditions.

Without the benefit of a comprehensive overview of education policies, procedures, and trends, architects have indiscriminately continued to hang on to the archaic urban notions. They also overlooked the dramatic efforts to surpass traditional district models, introducing further unpredictability in the planning, sizing, and serviceability of educational facilities. Spatial implications of major debates in education have remained underexplored. The drive for small schools has been addressed mostly through procedural means by dividing up existing large schools. The problem of the compact school and its interface with increased bus usage have been neglected, prolonging the dominant model of the sprawling campus. Effective integration of wrap-around services as an urban configuration also merits investigation. Finally, and most importantly, how to address the issue of variable enrollment through spatial means remains absent from the architectural debate. The two cases presented below are meant to illustrate suggestive openings for addressing some of these questions.

Figure 2: *Expanded educational network,* Dan Weissman, Lucia Moritz, Emma Heeschen, Joshua Klaris, Laura Shubila, Ryan Stewart, Federico DeMolfetta
Student work from School for Year 2030 - Spring 2012

"SCHOOL FOR YEAR 2030": AN EXPERIMENT IN COLLABORATIVE CONCEPTION

School for Year 2030 was a half semester-long interdisciplinary research seminar, jointly held by the Harvard Graduate School of Design (GSD) and the Harvard

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Figure 3: Henderson-Hopkins School - Image courtesy of Rogers Partners

Graduate School of Education (HGSE) in the Spring 2012.[19] The seminar brought together the GSD and HGSE students in order to test and observe how these two groups collaborated in the predesign stages of a brief theoretical project, focusing on an existing 600-student, K-8 turnaround school within the Boston Public Schools (BPS).

Although the first task of the groups was to design the parameters of collaboration, many of them struggled to establish synthetic working methods in the initial stages. While the design students leaned toward integrating the school with its immediate context by increasing its programmatic and spatial porosity; the education students took on a more measured approach, seeking to consolidate the institutional make-up. These were reflexive reactions, the former seeking to address the disconnected urban configuration of the school, and the latter to shore up its inherent strengths.

In the later stages, the groups built a more synthetic understanding by delving into the larger issues facing BPS, specific pedagogical priorities set by the HGSE students, the urban context, as well as the existing school building itself. This allowed for a more coordinated formulation of the needs of the school, suggestive of interesting procedural and spatial possibilities. For example, many projects identified potential collaborative engagements with nearby educational and non-educational institutions to augment the school's resources. Some projects broadly outlined how certain city institutions could take up periodic residencies at the school and how this arrangement may impact the spatial configuration. Given that a large majority of the school's students were commuters from other parts of Boston, many groups questioned the relevance of the neighborhood school model in this case. Reflective of the ongoing dilemmas of BPS, they expressed the need for a facility which can adequately address the immediate and larger context simultaneously, as well as the needs of a diverse set of constituencies.

This brief experiment showed that, even in the scale of a single building, inclusion of an expanded set of parameters–as opposed to starting from a static brief–could drastically charge the process and enable the design activity to move beyond biased assumptions. At the same time, the question of how the school integrates and interrelates with the existing organizational frameworks and urban settings provides rich openings to rethink the institution itself.

Another interesting outcome of the seminar was that as opposed to a tight fit with the pedagogic priorities of the school, many students intuited that a number of spatial configurations could accommodate a variety of pedagogical programs. Despite the fact that several groups were interested in the implementation of project-based learning schemes, the range of formal configurations showed that a good level of spatial variability could be possible. Therefore, the conception of an urban armature, enhancing the overall well-being of students and encouraging meaningful relationships, became an explicit interest for many of the groups. The second case below builds further on these themes.

HENDERSON-HOPKINS SCHOOL: SCHOOL AS URBAN ARMATURE

The hybrid working model presented above may seem applicable only in an academic setting. However, the case of Elmer A. Henderson School in Baltimore (Henderson-Hopkins) shows that openings for effective collaborative processes could be possible in practice. The Henderson-Hopkins is a 720-student, K-8

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school, designed by Rogers Partners and operated by the Johns Hopkins School of Education (SOE).[20]

The project was commissioned by East Baltimore Development, Inc. (EBDI), a nonprofit development corporation involving community, governmental, institutional, and philanthropic representatives. EBDI was formed in 2003 to revitalize Middle East Baltimore, a distressed neighborhood adjacent to the Johns Hopkins Medical Campus. The nonprofit organized an architectural competition in 2010 among three architectural practices following a qualifications process.

There are two aspects of the process worthy of note. First, during the competition phase, the pedagogical priorities and content of the school were relatively vague as the SOE was yet to commit as the operator. The competition brief prepared by EBDI and its consultants, made certain suggestions in regards to the nature of the school they desired, such as how the students should be grouped in “houses” with separate dining halls and the importance of community access. Second, the competition was structured essentially as a three-month working period involving all three teams. This period included an introductory session with the community members to gather their ideas and multiple working and feedback sessions with EBDI, allowing for a gradual development of a collaborative relationship.

The Rogers Partners’ winning scheme is based on an urban and architectural study of the surrounding neighborhood, feedback from the community and EBDI, and a typological study of school buildings with a focus on the finger plan type. The resulting ensemble extends the fabric of the surrounding blocks within the school boundaries with an intent to provide a familiar environment for the

Figure 4: Henderson-Hopkins School - Image courtesy of Rogers Partners

5

students. The massing strategy breaks up the school into distinct clusters along the street grid, each marked by a translucent commons volume and occupied by a different age group. Thanks to a layered security concept and constant visual connections, the school's perimeter is quite porous. Another urban quality of the scheme is the way with which it places the shared community uses (the library, family resource center, auditorium, and gymnasium) as well as the Early Childhood Center along the public road. Each of these uses are accessible from the public road and from the school itself. The overall expression, however, remains consciously unified and consistent, disguising many minor and major operational differences, and even land ownership patterns. As such, the campus acts as an integrated urban armature which retains a certain level of malleability.

Despite the fact that the SOE became involved as the operator of the school only after the competition phase, they found the open-ended nature of the scheme conducive to the personalized learning program they wanted to implement. Most of the subsequent revisions during the project development phase focused on the internal configurations of the houses. For certain aspects of the project where the layout implicated out-of-the-norm procedures, the operators modified daily procedures accordingly. The case of multiple commons spaces instead of a single one is a good example. This layout allowed for the gathering of smaller student groups during lunch time, with an intent to provide a calmer dining experience than a typical school offers. The configuration presented difficulties in terms of operation and the school had to budget for a larger than usual number of food service workers. However, the operator found this feature to be a crucial component for student wellbeing and worked to retain it.

Figure 5: Henderson-Hopkins School - Image courtesy of Rogers Partners

Currently in its first full year of teaching, the school is still working to occupy the building in a well-orchestrated manner. This adaptation process itself is in fact one of the more intriguing threads in the case of Henderson-Hopkins. Design features such as the multiple dining areas, use of open and individual learning spaces, extensive use of outdoor courts, sharing of facilities with the community, and porosity of the perimeter are all specific ideas originated through the design process with feedback from various parties and the brief itself. As such the building seeks to serve as a marker of the community's aspirations, not only at a representative level, but also operational, seeking to transcend normative procedural arrangements. This is a challenging and messy prospect, as it requires a significant level of institutional adaptation and development of new collective habits.

RETHINKING PUBLIC INSTITUTIONS: INTERNALIZING INDETERMINACIES

Building a piece of architecture–and ultimately the city–is slow. On the other hand, organizational and administrative models are subject to potentially rapid modifications, subject to social and political transitions. The increasing unpredictability of architecture's publics and their evolving desires make public processes even harder to address. At the same time, the procedural nature of school building practices make it convenient to conceive the school project in an insular manner. Given the myriad of evolving policies, regulations, and trends, public school projects risk resulting in narrowly composed procedural ensembles, lacking resilience and adaptability. Architectural historian Peter Blundell Jones notes:

> Architects and commissioners of schools tend to regard current rules and standards as sacrosanct and past practices as unenlightened and stupid, while bureaucracy creates increasingly complex norms which make some things compulsory, others impossible and decide inflexibly where money should be spent. In the longer view some of these rules and norms appear to be temporary fads, and the proliferation of ever more detailed minor demands may be making it more difficult to see the bigger picture.[21]

This caution against the overemphasis of regulation and use categories at the expense of "the bigger picture" parallels architect Rafael Moneo's observation that public increasingly expects the architects to "strip buildings of their monumental condition and directly claim their values in terms of use."[22] To be sure, a major part of architectural practice in the democratic society consists of addressing intricate regulatory and hierarchical webs intended to minimize risk and unpredictability. In the age of accountability, the reflexive mode of formal articulation presents a tenable option for the architect. However, addressing immediate procedural needs of public institutions formulated through exceedingly hierarchical processes risks premature obsolescence in the face of organizational and urban transformations.

As the case of schools show, such utilitarian mechanisms hardly avert the inevitable derailing of the fleeting condition of balance. Public schools are successively over and under enrolled, suitable and unsuitable for the new pedagogical priorities, autonomous and network-dependent, and claimed by local communities and the larger city. While the brief is a necessary starting point, a high level of specificity may serve only to fruitlessly downplay the crucial indeterminacies. Postwar architects' overemphasis on future growth of schools as opposed to adaptability provides a good lesson. As much as the late EFL publications pointed to alternative uses, such as expanded community activities and adult education as a means to increase the utilization rate of the oversized school buildings,

ENDNOTES

1. Kelley Carey, "The Master Planner," *American School Board Journal* (April 2010): 46.
2. Kelley Carey, *School District Master Planning* (Lanham: Rowman & Littlefield Education, 2011): 29.
3. The school building boom of 2000-2010 in Massachusetts is a good example. In this decade, an overwhelming number of Massachusetts school districts built or renovated about 70 million square feet of school space. The school building assistance program was seen as "a quasi-entitlement to school construction funds" for projects which were "premature, poorly planned and predicated on unrealistic enrollment projections." Massachusetts School building Authority, *2010 Needs Survey Report* (2011): 5.
4. Fran Tonkiss, *Cities by Design: Social Life of Urban Form* (Cambridge: Polity Press, 2013): 3.
5. Edward Glaeser, *The Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier* (New York: Penguin Books, 2011): 257-259.

spatial and procedural adaptation remained an insurmountable hurdle for many districts.

The political, administrative, and urban setting of the American city further complicates the picture. Aside from the inherently uneven nature of development and related urban and social problems, each school district has a uniquely calibrated use of an organizational algorithm consisting of complex assignment boundaries, regulations, and administrative hierarchies. These unique conditions are often the outcome of singular histories of social conflicts and negotiations. Consequently, without a well-calibrated spatial and procedural articulation, categories such as neighborhood schools, learning communities, and network schools are no more useful than the rhetorical positions which came to define the educational debate. Without constructing and clarifying the particularities of how they function within their unique contexts, these labels are of marginal value as design parameters.

In this framework, simplified one-size-fits-all planning processes and school models are not only inadequate but also detrimental to the composition of an educational environment capable of transforming its spatial and procedural settings for the better. As opposed to a desire to build a catalogue of so-called best practices, the complexity of the educational landscape calls for more on-the-ground approaches to recognize the desires of urban communities and singularities of contexts. Therefore, a more effective architectural agency requires transcending the limitations of prescriptive processes by conceiving richer collaborative engagements within which the architect can help mediate organizational, urban, and building scale parameters. By compelling urban communities to holistically think of their institutions in a more anticipatory manner, the architect can help articulate resilient socio-material formations intended to increase the quality of experiences for their diverse constituencies, and enable the conditions for new collective habits to form.

6. Recent scholarship in real estate suggests that schools are strong urban magnets even in open choice districts. Bartley R. Danielsen, "School Choice", *Urban Land Magazine* (February 2012). Retrieved 11/11/2014 from http://urban-land.uli.org/industry-sectors/opinion-school-choice/.

7. Pauline Lipman, "Mixed-income Schools and Housing: Advancing the Neoliberal Urban Agenda," *Journal of Education Policy*, 23:2 (2008): 119-134.

8. Jean Anyon, *Radical Possibilities: Public Policy, Urban Education, and a New Social Movement* (New York, Routledge, 2014): 92.

9. Kenneth K. Wong and Francis X. Shen, M*ayoral Governance and Student Achievement: How Mayor-Led Districts Are Improving School and Student Performance* (Washington DC: Center for American Progress, 2013).

10. For example, regarding the development of the programming and squatting concepts see Jonathan King and Philip Langdon, eds., *The CRS Team and the Business of Architecture* (College Station: Texas A&M University Press, 2002) pp. 44-45.

11. Avigail Sachs, "Marketing through research: William Caudill and Caudill, Rowlett, Scott (CRS)," *the Journal of Architecture*, 13:6 (2008): 737-752.

12. William Brubaker, "Comprehensive Community Planning", *the High School Journal*, vol. 50, no. 2 (1966): 68-72.

13. William Brubaker, "New Directions in School Planning: Building Types Study 415," *Architectural Record*, vol. 148, no. 5 (1970): 121-130.

14. Judy Marks, t*he Educational Facilities Laboratories (EFL): A History* (Washington DC: National Clearinghouse for Educational Facilities, 2001):1.

15. As a snapshot of the EFL's comprehensive focus see for example "The Education Boom", *Contract Interiors*, vol. 126, no. 5, (108-109)..

16. Frank S. So, *New Physical Forms for City Schools*, PAS Report No.235 (Chicago: American Society of Planning Officials, 1968).

17. CRS, for example, actively soought to empower the underserved communities they worked with through the design process. Hashim Sarkis, "On the Line between Procedures and Aesthetics," in Joan Oackman, ed., *the Pragmatist Imagination: Thinking About "Things in the Making"* (New York: Princeton Architectural Press, 2000): 96.

18. Allan Odden, "Equity and Adequacy in School Finance Today," *The Phi Delta Kappan*, vol.85, no. 2 (October 2003): 120.

19. The seminar was jointly led by myself and Dr. Deborah Jewel-Sherman of Harvard Graduate School of Education.

20. The information presented here is taken from my ongoing detailed case study of the Henderson-Hopkins project, gathered through interviews with the project architect, EBDI, and representatives of the school and Johns Hopkins Graduate School of Education.

21. Peter Blundell Jones, "The Development of the School Building and the Articulation of Territory", in Pamela Woolner, ed., *School Design Together* (New York: Routledge, 2015): 31.

22. Magda Anglès and Judit Carrera, "Interview with Rafael Moneo," Public Space (2010). Retrieved 9/5/2014 from http://www.publicspace.org/en/text-library/eng/c005-entrevista-a-rafael-moneo.

BEYOND RELATIONISM