# The Metropolitan Warehouse:
# Adaptive Reuse

A conversation on March 14, 2018

Notes and paper by Faizan Jawed Siddiqi.

ATTENDEES: Irina Chernyakova, Production Coordinator, MIT Architecture
John Fernandez, Professor, MIT Architecture; Director, MIT ESI
Dennis Frenchman, Professor, MIT DUSP and CRE
Tom Gearty, Director of Communications, SA+P
Hiroshi Ishii, Professor, Tangible Media Group, MIT Media Lab
Brent Ryan, Associate Professor, MIT DUSP
Hashim Sarkis, Dean of the School of Architecture and Planning
Andrew Scott, Professor, MIT Architecture
Faizan Jawed Siddiqi, PhD candidate, MIT DUSP

The topic of this dinner was the reconceptualization, redesign, and renovation of the Metropolitan Storage Warehouse (the Met) as an adaptive reuse project.

### The new Met building as a statement of values and design thinking by MIT SA+P.

The MIT School of Architecture and Planning (SA+P) is the top school for architecture, planning, and design in the world. We want to build a state of the art facility for the future. In the Metropolitan Warehouse building (the Met), we are starting with an old building with the potential to serve our programmatic and spatial needs in the decades to come. What does our vision for the redesign of this building say about who we are and what we value? As an important consideration for redeveloping the Met, we should aim to showcase the possibilities of design by adaptive reuse to the world at large, especially the younger generation.

### What does Adaptive reuse mean?

Does adaptive reuse necessarily mean historic preservation? No. There are many adaptive reuse projects existing today that have nothing to do with historic preservation. Adaptive reuse is a forward-looking plan that strategically leverages, appropriates, and valorizes some aspects of the existing building infrastructure to suit the needs of the present and the future.

In this sense, we should imagine adaptive reuse not just as intelligently repurposing the building to suit the School's current needs and pedagogical program, but also making sure that the new (adapted) building is adaptive enough to cater to the changing needs that will arise in the future.

- While looking to the future, we should also try to preserve the essence the Met's strong "character" or "personality." In this context, the most important question is: to what extent should the building be changed physically? (i.e., rebuilt)
- The City of Cambridge would not want to be surprised with a radical redesign. If we work closely and build trust with the City, we might earn flexibility and latitude for the design choice.

## Conservation vs. reconstruction

When considering the redevelopment of Met as the new home of MIT SA+P, a key question is how much to conserve versus how much to rebuild.

Conservation argues for retaining as much of the existing building as possible and working within it to realize our spatial and programmatic needs. This view values the building as is, idealizing it, and believing that its spirit should not be modified. In this approach, there would be minimal demolition of the facades and the existing structural system.

The opposing view holds that SA+P should be free to gut the entire inside and as much of the facades as is permissible (as per building and city regulations) to realize our objectives. In this view, spatial design and programmatic objectives are not tied to preserving the building per se. The image and spirit of the building as it exists today is not necessarily something we need to preserve in a literal sense.

Key questions, comments, and observations raised in the conversation included:

- The middle ground between these two views is that good and bold design is possible with either approach. It is important to let the architects know what we value and let them propose solutions from which we can choose the best.
- For instance, part of the building could be an “underdetermined” loft-style building. Its spaces could be purposed temporarily by projects and programs as needed.
- This argues for presenting the architects with a brief that clearly lays out our spatial and programmatic requirements, such as the need for X number of classrooms, Y number of studios, and Z number of “flexible spaces.” Rather than specifically instructing the architects how far exactly to “push the building” (i.e. what to preserve and what not to), we should inform the architects that we want plenty of natural light and a bold and forward-looking building, then set them to work.
- Determining the spatial metrics required by the different departments, centers, and programs, therefore, would be very important.
- The more we try to make the building what it is not (amenable to), the more expensive the reconstruction will get.

## Lifecycle approach to sustainability

SA+P should adopt a lifecycle approach to the design and construction of the building and aim for net-zero energy ramifications. The physical form/design with the adaptive reuse approach is going to play a limited role in the overall sustainability of the building. However, a mindless insistence on making the building net-zero emission could be overkill and risks overlooking other methods of achieving overall carbon neutrality.

For instance, it might be cheaper to buy carbon credits to offset the emissions from a building rather than making the building “net-zero” here and now. The exact modality, timeline, and method of achieving net-zero emissions needs to be carefully determined keeping different aspects and methods in mind.

Key questions, comments, and observations raised in the conversation included:

- Energy, water, materials, operations of the building. The architects should be given some direction regarding the overall sustainability we want.
- Which energy aspects can this building enhance that a regular building won't? Synergy between different aspects – how much to conserve, which materials to use, how to power the building, etc. – therefore becomes key.
- Many net-zero buildings look plain and boring. Ours should be bold, elegant, and beautiful. This should form a guide for architects should they start veering towards staid and boring. Good aesthetics and net-zero are not exclusive concepts; the architects produce the best synergy.

**The new building design as a response to climate change.**

Our intention should be to develop the new Met as a showcase of holistic and environmentally responsible design. The building should clearly acknowledge and respond to the reality of climate change. The building needs to respond to the challenges of a changing climate—today in the decades to come. The building should become a case study in how to design and build in anticipation of weather-related catastrophes.

Key questions, comments, and observations raised in the conversation included:

- Given the reality of climate change, and imminent risk of flooding in the Boston area, it may be unwise to employ the basement. The first floor of the building should be made flood proof.
- We should aim for a building that can operate without external electric power supply for up to two weeks.
- As a resilient building, the Met should serve as a refuge not just the SA+P community, but also the broader MIT community during weather-related events.

**The relationship of the (new) building to the street and the city in general.**

We should think of the building not just as a part of MIT, but also as part of the City of Cambridge. Therefore, aspects such as relationship of the building to the street, to the fabric of MIT, and to the urban fabric of Cambridge should be addressed with sensitivity.

Key questions, comments, and observations raised in the conversation included:

- The City of Cambridge has conveyed a requirement to preserve the Met's facades along Massachusetts Avenue and Vassar Street. We will need to work with this requirement.
- We should invite architecture firms that are skilled at adaptive reuse but also understand (and preferably have experience with) the design of architecture and design schools.
- The Vassar Street and Massachusetts Avenue facades of the current Met cannot be changed radically. However, strategic improvements/additions such as awnings, café spillovers, studio spillovers from the building on to the street, could enhance the relationship between the building and the street.

## The Metropolitan Warehouse:

# Pedagogy & Research

A conversation on March 20, 2018

Notes and paper by Faizan Jawed Siddiqi.

ATTENDEES: Judith Barry, Professor and Director, Program in Art, Culture & Technology
Eran Ben-Joseph, Professor and Department Head, MIT DUSP
Gabriella Carolini, Assistant Professor, MIT DUSP
Timothy W. Hyde, Associate Professor, MIT Architecture
Mariana Ibanez, Assistant Professor, MIT Architecture
Duncan Kincaid, Director, Computer Resource Network, SA+P
Terry W. Knight, Professor, MIT Architecture
Caitlin Mueller, Assistant Professor, MIT Architecture
Takehiko Nagakura, Associate Professor, MIT Architecture
Les Norford, Professor, MIT Architecture
Ellen Rushman, Academic Programs Coordinator, MIT DUSP
Brent Ryan, Associate Professor, MIT DUSP
Hashim Sarkis, Dean of the School of Architecture and Planning
Faizan Jawed Siddiqi, PhD candidate, MIT DUSP
Melissa Vaughn, Associate Director of Communications, SA+P

The topic of this dinner was the types of spaces suited to the pedagogical and programmatic needs for the School of Architecture and Planning (SA+P) as its looks ahead to a future move to the Metropolitan Warehouse (the Met).

## Conceptualizing spaces for learning and SA+P's pedagogy

How would the pedagogical approach of SA+P affect the design of the Met? Conversely, the transition of SA+P to the Met building offers a chance to rethink our pedagogical approach.

The different departments and centers at SA+P involve different kind of pedagogies. What synergies can be developed between these pedagogical approaches in the Met building? How should we conceptualize different aspects of the pedagogical infrastructure at the Met?

Key questions, comments, and observations raised in the conversation included:

- The studio should be a space that helps students realize their intellectual and creative self. One description of the difference between studio and lab: "The authority of the professor orders space in labs, whereas studios are democratic spaces of self-realization."
- Temporality of labs and studio: Studios are temporary and cyclical, recycled every semester. Traditionally labs have a more permanent character.
- Should we think beyond the rigid division between lab and studio? It may be more efficient to have spaces that could serve as labs when needed and, once the project is over, be used for other projects.

## Current conditions and concerns regarding spatial resources at SA+P

SA+P currently has a number of facilities where research, learning, and teaching happen. These include class/lecture rooms (big and small), studios, research labs, maker spaces, conference rooms, and informal "hangouts." They are scattered across the School and serve varied institutional constituencies (i.e., the departments, centers, and labs) that control their use. Generally speaking, studio spaces at SA+P could greatly be improved.

Key questions, comments, and observations raised in the conversation included:

- The current feeling faculty and students have regarding studio spaces is that of reluctant acceptance. The Met should have spaces that SA+P's members don't simply "accept." These should be spaces loved by those who use them.
- SA+P needs more classroom space. In addition to that, we should develop more exhibition and display spaces to showcase the work done at SA+P.
- The use of classroom spaces at SA+P is divided among various administrative jurisdictions. Should the Met have a different spatial resource regulation policy? What would this system look like?
- Flexible spaces are an important consideration. Technological changes are rapidly changing the pedagogical tools used by faculty and students, which means that the amount of space—as well as the inner configurations needed within space—will change rapidly over the next decades.
- The experience with "City Arena" at DUSP in the newly redesigned Building 9 highlights why we (and the architects) should curate the balance between flexible and permanent spaces and single and multi-use spaces.
    - The City Arena (9-255) was intended to serve as a multipurpose room with a spill-out area that could be joined to the main room by opening the sliding glass doors when needed. Cameras for videoconferencing were installed strategically with the intention that the whole room could be covered during a conference call with colleagues and partners anywhere in the world. The furniture in the room is fully movable. In other words, the room was supposed to serve a number of different purposes, depending on need.
    - In practice, attempting to employ the multiple uses has led to disharmony and disenchantment. Changing the setup of the room involves resetting the furniture, which is a hassle for anyone organizing a class or event. Users often leave the room in disarray, which is a source of frustration for those setting it up for the next event.
    - The line of sight is broken from many angles, especially from the spill-out multifunctional space at the back of the City Arena. When the spill-out room is not being used as part of the City Arena (a purposive design feature, intended to allow for City Arena to allow multiple uses in parallel), individuals working or hanging out in the spill-out room creates unnecessary distraction for those working or attending a lecture in the main room.
- The architects of the Met will have to be sensitive and mindful of scale and the balance between flexibility and rigidity. They will need to think carefully about which scale(s) of building allows for the social and programmatic mixing we require. The designers will have to carefully match the spatial scale requirements for varied types of uses and themes.

**Developing synergy—institutional, pedagogical, thematic, and spatial**

In the new building, we should try to create synergies to the greatest extent possible among the various departments, centers, programs, and labs. However, it cannot be expected that design alone will create the synergies. Pedagogical reorganization on the part of faculty and other institutional members would also be needed. What would the new building, with a renewed pedagogical approach, look like?

In the new building, the floors should not be silos—one for each department. Instead, a synergistic approach should be followed.

Key questions, comments, and observations raised in the conversation included:

- We should have programmatically themed areas that cut across programs and departments. For instance, space could be delineated programmatically into maker spaces, conference rooms, studios, loft-like flexible spaces, classrooms, faculty offices, PhD student offices, auditorium, etc. The departments or users would revolve around the space, rather than the other way around.
- The library in the Met should become a very important and lively part of the new building, serving to bring together students and faculty not only from across the School but also the Institute. It could also host visiting artists and scholars.
- Further, the new building will provide an opportunity for smaller programs in SA+P, which currently look inward, to synergize with other departments and programs in the School.
- Currently, DUSP and Architecture have their headquarters in the same space. This has positive externalities because many administrative and logistical issues between the two departments work out smoothly because spatial proximity encourages social mixing and cohesion between the two staffs.
- With advancement in 3D printing technology and the lowering of hardware costs, we are now moving to the concept of the "maker desk" instead of "maker space." Keeping these future changes in mind, designing spaces that are flexible will be a smart move.
- On the other hand, permanently "hard wiring" the entire new building is not such a wise idea. Striking a balance between flexible-and-programmable and fixed-and-already-programmed is very important.
- There should also be "unprogrammed" spaces between faculty offices and studios, which could serve as spontaneous meeting areas for users of the Met.

**Notes on general attributes of successful spaces at SA+P and beyond**

Learning from the open-plan school started in the 1960s: What was gained in terms of programmatic efficiency and spatial flexibility was lost in terms of logistical efficiency and sense of belonging. The balance between flexibility and permanence is key to ensuring a building that strikes a good chord with its inhabitants.

The space used by the City Design & Development group at DUSP (10-485) is a design cluster that could provide inspiration for the new spatial and programmatic logics we have in mind for the Met. The 10-485 area, essentially a double-height rectangular prism, includes faculty offices, studio space, a computing cluster, an enclosable space that serves as a conference/meeting/seminar room, a large flexible seminar/lecture space, and student workstations (which become lounge space), and administrative offices.

Key questions, comments, and observations raised in the conversation included:

- The hangout space outside Steam Café is a good example of an informal meet-up and work area that is popular with students.
- Similarly, the little "nooks" outside 9-450 are examples of simple informal spaces that serve students' needs well, as evidenced by the amount of use they receive.
- Currently at SA+P, the successful informal hangout spaces are more or less all located just off of central thoroughfares.
- The Stata Center at MIT uses an unconventional approach to workspace design, such as open-plan labs, high transparency throughout the building, and unconventional floor plans. We should consider interviewing the users of the Stata Center to understand what works and what does not in that design.
- The co-working space company WeWork has been conducting research on the kinds of spaces appropriate for different work-study requirements (e.g., whether open-plan layouts work for the startups they host). We should draw on this and other recent research.

## The Metropolitan Warehouse: SA+P and the MIT Libraries

A conversation on April 10, 2018

Notes and paper by Jessica Varner.

ATTENDEES: Chris Bourg, Director of Libraries
Tracy Gabridge, Deputy Director, MIT Libraries
Timothy Hyde, Associate Professor, HTC, MIT Architecture
Lauren Jacobi, Associate Professor, HTC, MIT Architecture
Duncan Kincaid, Director, Computer Resource Network, SA+P
Paul Pettigrew, Manager of Special Projects, MIT Architecture
Hashim Sarkis, Dean of the School of Architecture and Planning
Rafi Segal, Associate Professor of Architecture & Urbanism, MIT Architecture
Kristel Smentek, Associate Professor, HTC, MIT Architecture
Jessica Varner, PhD candidate, MIT Architecture
Melissa Vaughn, Associate Director of Communications, SA+P
Siqi Zheng, Associate Professor, DUSP; Director, China Future Cities Lab

The topic of this dinner was the relationship between the School of Architecture and Planning (SA+P) and MIT Libraries. Specifically, would the School's move to the Metropolitan Warehouse (the Met) include MIT's Rotch Library for Architecture and Planning? If so, how?

### A library is more than a building; it is people and expertise.

The discussion around moving the library presents some of the most existential questions for the role of the Met in the larger campus as a whole. Is the library coming with us? If so, it would be

accompanied by both deeply symbolic and profoundly practical questions about the library, as well as questions about the role and physical presence of SA+P on the main campus.

This library presents the opportunity for the School to reinvent itself within the community. Fundamentally, we ask whether the library will remain a presence within the Rogers building (Building 7) or somehow move to the Met building? This is about our future as an academic research school and what the library means to that pursuit.

### What is the future of libraries at MIT?

The library spaces at MIT function as a network. Libraries are moving from being containers of knowledge (i.e., the library is a place, and there are books and printed materials in it), to a more multifaceted platform for exchange (i.e., the creation and exchange of knowledge).

Four functions are necessary for any library:

1. Holdings (print and digital materials)
2. Learning (using places to study, work, etc.)
3. Community gathering (interdisciplinary, across roles in the Institute)
4. A place to create (now knowledge is created in libraries).

Hayden Library is undergoing a renovation soon, which will make it a more inviting community space. Rotch Library now has a very specific role in holdings, creating (GIS lab), and small-group learning. Rotch Library is not yet a true community gathering space.

Key questions, comments, and observations raised in the conversation included:

- Data support is a key function for the future.
- What is required for a data center? Space, security, display, etc.
- How could we make a library in the Met function as a 24-hour international research center? New technologies, new ways of borrowing, new ways to access material.
- How do maker spaces fit into the conception of a new design library? Think about flexibility.
- Can the library be decentralized? Can it be distributed within the Met, but also within the network of the MIT Libraries?

### What defines a library?

A library is more than just books; it is people and expertise in a place. A library demands a balance between informal community gatherings and formal communal space for studying, such as classrooms and study spaces—places where the traditional quiet of a library is required.

Key questions, comments, and observations raised in the conversation included:

- For the community, it is key to have access to research librarians nearby.
- Art, architecture, and design libraries require the extremes of library needs, from rare print to virtual reality. How does that translate in the Met?
- The library is a pedagogical tool: we teach through the objects and the virtual experience of the library.

- The library is the space of an ethic of work, intellectually. The School without a library is a School of disparate parts, without a shared core.

**Is the library coming with us? We need to move the library.**

MIT Libraries has shrunk on-site print material to a minimum. Unique to Rotch Library are the Aga Khan collection, the GIS lab, and the rare books and special collection holdings.

Some have argued that the library should stay in the Rotch location; others have said that some of it should come with SA+P to the Met; and yet others say let's keep two libraries and imagine them as two different ways to imagine an arts library. Currently, the Rotch has a net square footage of 20,000 square feet.

Key questions, comments, and observations raised in the conversation included:

- "If the library does not move with the School, I am disconnected from the work I do, and my students are further disconnected from a vital research resource."
- The Rotch is the Rotch, but the new building should have a new library with a unique identity within the MIT library network—a piece on west campus and a piece on Massachusetts Avenue.
- Space is tight: 20,000 square feet is not enough to create an international design library. (For example, the Fisher Fine Arts Library at UPenn is approximately 115,000 square feet; Columbia's Avery Architecture and Fine Arts Library is also substantially larger.)
- What can stay and what can go if the Rotch were to move with SA+P?
- "Books are key to my research, and carrying heavy books across Massachusetts Avenue is not ideal."
- Are stacks important to the modern library when books are now delivered to people? How big of a collection would we need to create "stacks moments" in a constrained footprint?
- Research needs evolve, research interests shift. Therefore the print collection needs to accommodate changing needs.
- The library serves as extra "office" space where faculty, staff, and students can work without the distractions of group offices.
- By not moving the library, we would send a negative message about the necessity of a library in the School of Architecture and Planning.
- If a priority is to maintain an SA+P presence within the main group, how do we then use the current Rotch space?

**If the design library is there, they will come.**

What is a design library? We imagine it to be a place not only of research and work but a place where all the departments can coexist and learn from each other. This is a unique possibility for the Met's future program.

Such a library has the potential to foster interactions among disparate disciplines. This is fundamental for understanding the connections among design disciplines. It would be a space for common resources (books, tools, and spaces). Also, what makes design distinctive or unique is

process; therefore, the possibility to include documentation resources in the design library would be important.

Moving the library alone is not sufficient. We need to use this as an opportunity for a key piece of infrastructure for the School by placing it prominently in the new School design.

Key questions, comments, and observations raised in the conversation included:

- We need a beautiful, primary library space as a central meeting place, with opportunities for quiet study as well as large gathering spaces.
- Symbolically, libraries say something to the campus and to the world about what our values are. The library serves as an intellectual center for SA+P—the central space connecting all other spaces of the School.
- Examples discussed: Stanford Art and Architecture library, Max Planck Institute for the History of Science, Penn Fisher Arts Library, Avery Arts Library Columbia, and Cooper Hewitt Museum.
- West campus is currently defined by social spaces. What does it mean to have a library in that context?
- Moving the Rotch with SA+P means moving books, stacks, and special collections that are an attraction for a community beyond MIT.
- Can we expand archival collections in a new library? To use it as an attraction, to bring scholars to an international research center?
- Are there common tools and common spaces that would be required in a design library?
- How visible will the new library be? How secure does it need to be? How open will it be?

## The Metropolitan Warehouse: Shops and Facilities

A conversation on April 11, 2018

Notes and paper by Jessica Varner.

ATTENDEES: Marion Cunningham, Administrative Officer, Program in Art, Culture & Technology
Martin Culpepper, Professor, MIT Mechanical Engineering
Joe Ferreira, Professor, MIT DUSP
Neil Gershenfeld, Director, Center for Bits & Atoms
Jim Harrington, Facilities Manager, SA+P
Duncan Kincaid, Director, Computer Resource Network, SA+P
Caitlin Mueller, Assistant Professor, Building Technologies, MIT Architecture
Hashim Sarkis, Dean of the School of Architecture and Planning
Nida Sinnokrot, Assistant Professor, Program in Art, Culture & Technology
Anne Whiston Spirn, Professor of Landscape Architecture & Planning
Skylar Tibbits, Assistant Professor, MIT Architecture

Jessica Varner, PhD candidate, MIT Architecture
Melissa Vaughn, Associate Director of Communications, SA+P

The topic of this dinner was the integration of makerspaces and shops into the Metropolitan Warehouse (the Met). The discussion included two main categories of spaces.

The first are the spaces associated and administered by the School of Architecture and Planning (SA+P), for its research, teaching, and programmatic needs. The second is the Met makerspace, which is focused on providing support for the entirety of the campus. The latter will be a significant aspect of the planning for the building as it would become the largest maker space on campus with programming and access for all students on campus. Where practical, this space may share some equipment with any studios, workshops, and makerspaces that SA+P develops within the Met for its needs.

**Shops should not be viewed as just technical spaces, but rather where we shape our future around making.**

Fabrication and building on campus present obstacles to MIT students that include difficulty accessing spaces for making, even though approximately 40 to 50 such spaces exist. Each space presents challenges to access. MIT is looking to find a balance between each of the maker space types—machine shops, project spaces, and community maker spaces—but community space is the biggest priority.

The Met makerspace is to be a community makerspace that brings the campus to balance. Community spaces succeed in different ways, but key for such a space are these considerations:

- That it be designed for the maker;
- That it equally support all student makers on campus
- That the programming/use be focused on student needs
- That it not be programmed for, or have time/space owned by, classes
- That it have its own identity separate from the other workshops in the Met;
- That it be integrated into MIT at large;
- and that it be run, in some capacity, by the students who use it.

There is also a nesting of capabilities among various makerspaces already around campus. The makerspace in the Met will be a piece of this larger network with focus on giving all students rapid and easy access to basic and advanced making capability.

Key questions, comments, and observations raised in the conversation, as well as in review after, on all of the makerspaces and workshops in the Met included:

- The scope of collaboration between the SA+P makerspaces and the Met makerspaces needs better definition, but at present this may include sharing major pieces of equipment that it does not make sense to duplicate and storage space.
- Media uses should be incorporated within shop and fabrication facilities (projection spaces, video walls, GIS labs, media labs, audio labs, video/camera spaces such as white cubes, and places to document work).
- However, do we need computer clusters? How will media change within the building? Do we need a private cloud? What can we accommodate?

- Digital makerspaces might also be connected with the Library at the Met. How can synergies emerge with other facilities at the Met? (E.g., the library, community spaces, etc.)
- Proximities can be productive, but they can also be counterproductive when adjacencies produce friction and limit exploration, i.e. screwing something into the ceiling, changing or reconfiguring space or equipment, making community facilities dirty in a variety of ways.
- The Met lends itself to a "factory of making" atmosphere. It has the opportunity to allow for larger art production and larger prototypes. The raw, warehouse feel can become a magnet in its position on West Campus—including its proximity to the gym, to the residential areas, etc.—but is there enough space?
- How can the Met facilitate different modes of making, that change over time, in a flexible manner? We know technologies and needs will change, how can the building change with us?
- Outdoor space is key to assembly and making, how can that be incorporated into how we imagine making at the Met?
- Storage is also key. It is something we lack, and the Met has the capacity to include it. How much storage do we need—and what do we need to store?
- Natural light and adjustable walls seem critical to making in certain ways. Who needs light? Who needs walls?

**How can we connect the spaces for making with the spaces for learning?**

The Met offers an opportunity to connect the SA+P spaces of making with the spaces of learning at the MIT School of Architecture. As installation needs get bigger and bigger, so do the requirements for storage, creation, and display of larger pieces. Moreover, making is inherently messy, but we need a way to embrace and accommodate the mess in the pursuit of creative methods.

Key questions, comments, and observations raised in the conversation included:

- How does visibility work in the space? You need to be able see what people are doing and you need to have foot traffic through the spaces to make the maker spaces work.
- How to separate the dirtiness of making with the need to connect users through visibility? Students need to be able to make a mess, but also have ownership over the mess.
- Studio spaces need to have a direct connection to the making spaces, including ceramics, wood and metal shops, silk screening, etc. Does proximity facilitate learning?
- How can different subdepartments share space in the larger Met? Different groups do things differently; how do we appreciate each other's working methods? Can we cohabitate—and can we inspire each other?
- What makes community maker spaces? Couches, couches, couches, and kitchens.
- How do the makerspaces register on the exterior? How can we develop an identity around what we allow to be seen on the building? (i.e., through visible projections, through transparency on the façade, etc.)
- Students know what they need. How can we allow students to adjust, reimagine, and create the makerspaces?
- The ability to make changes the culture of the School. How do we define our culture of making at the Met? (Hands-on, digital, big, messy, etc.?)

**How do the makerspaces in the Met become a gateway for students, faculty, and for the broader community?**

Makerspaces at MIT serve as connectors in the larger network of building and making at the Institute. Moreover, the resources have the capacity to serve broader communities both proximate and global.

Given the strategic position of the Met in relationship to the overall campus and to the neighboring communities and beyond, how can the Met's maker capacities serve beyond its borders?

Key questions, comments, and observations raised in the conversation included:

- Real or perceived barriers to use or entry (i.e. access to the machines) are just as important as physical barriers. It is important for the letter and spirit of the mission of the Met makerspace be maintained, so that all students on campus perceive it as a place for them to work and not as giving preference to SA+P.
- How do we imagine or support access for all, not just architecture students?
- It is important to note that not everyone will use shops and maker spaces. DUSP students and faculty, for example, may not use them much. The space requirements for making and fabrication should be considered in tandem with more mundane but probably more widely needed spaces, such as conference, lecture, and reception spaces. The Media Lab sixth floor, for example, is heavily used by the SA+P community for a variety of events.
- How is faculty research accommodated in the SA+P makerspaces? (i.e. larger scale assembly spaces, exhibit spaces for larger pieces. Is an annex needed?) The Met makerspace will not accommodate classes or faculty research. Students who are working on research or class projects can use it, but it is not programmed for or set up to support research or classes.
- How is the community at large served by makerspaces? How can our Met be a resource for others?
- Examples to look at: Yale School of Architecture, Case Western University, MIT N51/N52, Georgia Tech, ETH Zurich (Gramazio and Kohler), Princeton, and Valve Offices (Seattle).

## The Metropolitan Warehouse: Outreach

A conversation on April 12, 2018

Notes and paper by Faizan Jawed Siddiqi.

ATTENDEES: Tom Gearty, Director of Communications, SA+P
Cesar McDowell, Professor of the Practice, MIT DUSP
Brent Ryan, Associate Professor, MIT DUSP
Hashim Sarkis, Dean of the School of Architecture and Planning
Faizan Jawed Siddiqi, PhD Candidate, MIT DUSP
George Stiny, Professor, MIT Architecture

The topic of this dinner was outreach, how the move to the Metropolitan Warehouse (the Met) could serve the School of Architecture and Planning's (SA+P) efforts to engage partners and communities, outside the School and beyond MIT.

## What are we trying to achieve—and how?

The School needs effective outreach to engage and contribute to the world. This is a strategic imperative as well as moral responsibility. There is a wide range of potential partners, stakeholders, and audiences in the world that the new SA+P at the Met should try to engage and welcome. How can outreach enhance the School's different aspects?

MIT SA+P is playing a leadership role by default, as an institution whose strategic moves other architecture and planning schools often emulate. The new Met building offers the perfect opportunity to showcase our ideas to others. While we do not want "outreach" to mean flashy displays that pander to popular (or touristic) demands, and without sacrificing our top-notch research, we should try to display our work and ideas in the best way possible. The Met should be a showpiece of effective outreach.

Key questions, comments, and observations raised in the conversation included:

- Our intention is to build the 21st-century school of architecture and planning. What is it exactly that we are dreaming of? How does it engage the world?
- At what scale should our outreach operate? Institute, neighborhood, city, greater metropolitan area, national, and global? In terms of our immediate community, we are part of the Cambridge community; even more locally, we part of the community in Central Square. At the other end of the spectrum, we also have global communities that we need to reach out to.
- In what ways can outreach be enhanced by a new Met? In our own experience, what kinds of outreach are growing and developing rapidly? How is outreach changing, as we understand it?
- What are the ways in which we can do this? What forms of outreach don't yet exist but could exist in the Met? Changing technology, for instance, has great potential for reaching out to the world.
- MIT has conducted and is currently undertaking a lot of development in Cambridge. Some at MIT think that MIT's development process for these projects leaves room for improvement. Can we avoid this outcome with the new Met project? How can the Met's process become a model for others to follow? Even if we don't have to consider these questions for economic or other reasons, we should still take it seriously and try to make the process as remarkable as possible.

## Current outreach-related challenges

There are a large number of people who would like to know more about the work being done at MIT SA+P but do not know how and where to look. Our immediate context is diverse—multilingual and multiethnic. We need to find ways to engage the breadth of this diversity.

Key questions, comments, and observations raised in the conversation included:

- SA+P currently lacks space that supports programmatic and outreach-related activities, such as a conference facility to host participants for a few days. Multiday meetings with outside groups often have to be held at Brandeis University or the MIT Endicott House, and because Cambridge hotels are prohibitively expensive. Should we take on addressing this problem in the Met project?
- MIT itself does not have a space (with the exception of Endicott House) where groups can convene and stay. It is valuable to have such a space on campus. It doesn't have to host a 100 people, but it would be useful to have space for, say, 20. Such a space could serve all of MIT.
- In many cities, except for formal governmental spaces, spaces meant to host different types of public consultations, rarely exist.
- What does a space that tries to become a resource for a diverse population look and feel like? This is a design challenge. More and more cities will have to grapple with this issue, and MIT SA+P's new Met could be a model.
- How can we design the new Met to interact effectively both with our own community (faculty, staff, students) and the broader community?
- During visits to high schools in the city, one MIT professor reports encounters with students who don't know that "planning exists." Our School's new building could help bolster and popularize the field.

**Forms and varieties of outreach: opportunities and possibilities**

There are a number of ways to welcome, engage, educate, and contribute to the world around us. Outreach can be enabled by changes in technology, pedagogy, programmatic foci, partnership strategy, and thinking across scales—from the very local (the Institute and Cambridge) to the global (international partnerships and outreach).

In fact, thinking about outreach for the new Met is an opportunity to rethink the culture and moral responsibility of SA+P. There are a number of strategies and potential projects that could be part of the overall outreach strategy of the new Met.

Key questions, comments, and observations raised in the conversation included:

- The railway tracks along Vassar Street and the Met would eventually be used by commuter trains, with the Met as the site of the new MIT commuter rail station. We should anticipate this possibility, which would make the Met a much more frequented site at MIT as well as in Cambridge.
- However, we need to think how much are we willing to open up before making the whole building (the new Met) into a train station?
- MIT Press is interested in becoming a facilitator for the dissemination of knowledge produced at SA+P. The MIT Press has expressed interest in opening a bookstore in the new Met focusing on MIT Press publications in art, architecture, design, and planning. The format of the new bookstore is still in the works—will it be in the library, exist as a kiosk, or sit in the planned café?—but it seems likely the MIT Press will have a location at the Met. In any case, the opportunity should offer a win-win situation for both SA+P and the MIT Press.
- Could the new bookstore location disseminate design studio and practicum reports?
- Making the Met maker spaces open to the public could be an outreach strategy.

- The library in the Met could be another form of outreach, reaching out primarily to the MIT community but also open to the public. If we are able to build a bigger GIS and urban-data analytics facility, these spaces could be another form of outreach.
- We could develop in-house infrastructure to host daylong conferences and to house meeting participants. This facility could be made available to MIT and beyond.
- The Met could be a meeting place for cities around the world to meet each other, bringing cities together for fruitful learning and exchange.
- As a responsible institutional resident of Cambridge, we should consider ways to allow the city to discuss its future using facilities and talent at the Met/SA+P.
- We should capitalize on advances in technology for outreach. The classrooms should have state of the art infrastructure. Every classroom should have the technology that enables to open it up to anyone in the world who wants to engage.
- The Met's gallery spaces offer a chance to showcase the breadth and depth of student and faculty work done at SA+P. They could also offer cross-institute, collaborative exhibitions.
- The use of Building 9 lobby as an exhibition space has shown how strategically locating exhibitions can enhance visibility. In addition, the complementarity of parallel exhibitions at SA+P spread across campus (Dean's office, Building 9 Lobby, Media Lab, and, this semester, the Student Center and the MIT Museum) shows how to build synergy and a brand. Similar strategies of visibility and coherence should be followed at the new Met.
- Technology should also be utilized in bringing real-life feel to the exhibition spaces.
- How can pedagogy be synergized with outreach strategy?
- Between architecture and the art program, there is a focus on curatorial projects. In fact, new courses in curating are being offered. We should strategically utilize the possibility of synergy between such courses and outreach.
- What should the design process be like? How should it substantively engage the community in and around the School? DUSP is going to offer a course in Fall 2018 on participation and planning, involving MIT and the broader community to help with the Met design process.
- Faculty in the Building Technology group hope that the architecture of the building will be such that lessons of building technology can be demonstrated live (and forever) to students.
- Our alumni have companies that focus on outreach. We should think of ways to engage them. We could have an annual public exhibition on urban planning, architecture, and design, open to the citizens of Cambridge.
- The Met could include a significant addition to MIT's set of beautiful ceremonial spaces on campus. Such a facility could establish the School as a presence for outreach. The building program and design should reflect this importance.

**The counter-argument: Can too much outreach hurt us?**

What are the potential downsides of outreach? Could trying to reach out too much hurt us? Will it take us away from the main goal of doing high-quality scholarly research? Even though it looks very big, The Met is not a very big building. The School is known by the work that faculty produce and publish. The building should encourage academic work, not how many people come to look at what is displayed in galleries. The Schools' energy and resources, therefore, should primarily be focused on helping faculty and students do the best, most cutting-edge work.

Key questions, comments, and observations raised in the conversation included:

- Draper Lab is a building to think about when considering the balance between outreach and focus on research. Their work and achievements are prominently displayed near the entrance, which faces the street while the rest of the building houses state-of-the-art research facilities.
- The New Media Lab is an example of a building designed for outreach. Building 7 is an example of a building not designed for outreach. However, has this different approach to design between these two buildings meant that one contributes more to society than the other? Probably not—faculty and students working at both places produce high-quality work that interests researchers around the world and contributes to improvements in the world.
- Faculty offices, classrooms, and the library are the spaces where the core intellectual work at a school happens. Meeting spaces, auditoria, etc. take space. The intentions for significant outreach to reach as wide a community as possible are commendable, but we should realize that these efforts will require dedicated space. We should take care, therefore, not to build outreach infrastructure at the cost of more essential spaces. Finding the right balance is key.
- Architecture schools often make the mistake of divorcing themselves from the academic and intellectual life of their main campus. They choose to move off campus. We need to get over the insecurities architects and planners have.

## The Metropolitan Warehouse:
## The School, the Institute, and the City

A conversation on May 1, 2018

Notes and paper by Jessica Varner.

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ADDITIONAL COMMENTS:
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The topic of this dinner was the School of Architecture and Planning's (SA+P) relationship with the Institute as a whole and with communities beyond the campus, especially the city of Cambridge. Specifically, the conversation explored the implications the Metropolitan Warehouse (the Met) would have and the potential roles it could play in expanding, improving, or changing the relationship with each of the communities within which SA+P is situated.

### How do we define the context of the Met?

The Metropolitan Warehouse project is more than just a parcel of land within the MIT campus. It offers internal connections to dormitory and living communities at MIT; to the activities that take place, for example, at the gymnasium and adjacent athletic fields; and to campus activities at the student center.

Moreover, the site offers connections beyond MIT. Local businesses and offices are proximate to the north, and the physical land sits at a key Cambridge intersection of Vassar Street and Massachusetts Avenue.

Finally, the Met junction is located at a critical seam between the city of Cambridge and the MIT community. Each of these contextual cues offers myriad opportunities for the Met to make new connections at MIT, within Cambridge/Boston, and beyond.

Key questions, comments, and observations raised during the conversation included:

- What is the boundary of the site? Are we limited to the footprint of the Met or are there other connections such as the tracks to the north and west that we can utilize for greater connection to the city?
- The sites to the north as well as growth in height on the Met site itself offer potential for expansion in the future. How do we imagine the Met's potential not just on the current site but also beyond in future plans?
- We currently have critical real estate (symbolic, physical, etc.) on the MIT campus, primarily in the main group of buildings. What happens to this position as we move to the Met? Can there be more central spaces (i.e., galleries, libraries, etc.) that we still use?
- The building is a fortress. How do we avoid this physical symbolism and open to the community, rather than closing in further on MIT?
- What are the urbanistic moves of the building? Where are the passages? What are the transit connections and public routes through the building?
- Building as passage, building as destination, building as a connector. The Stata Center was an initial precedent. Does it work? How can we learn from it?
- What is the image that we project by the facades? North and east are difficult. How can we make the aesthetics of the facades more welcoming?

**How do we imagine the future internal and external contexts of MIT?**

The future context of MIT is changing. Not only does the Met project offer ways to reimagine how we define the context of the site, but we also have an opportunity to redefine how context is understood through community engagement, stewardship, and global outreach, within and beyond the physical site.

How do we meaningfully interact with MIT, Cambridge, and the world? Key questions, comments, and observations raised in the conversation included:

- How do we become better hosts? Can spaces in the building serve the Cambridge community at large? For example, what if the Cambridge planning board had meetings in the building? Could students benefit from this type of engagement?
- We need a design that can straddle openness and security. If we are open, how can we address growing security needs (that also exist at Institute and city levels)?

- Can we extend the Infinite Corridor to the Met and keep that space open 24 hours a day?
- How do climate-adaptive strategies connect to the community at large? How do they serve the building itself? Or the MIT community? Or the Cambridge/Boston region at large?
- How does research enable connection beyond the building?
- Currently we do not interact with the Cambridge community in significant ways or meaningfully with institutions such as Harvard. This begins with pedagogical strategies, but it extends to the building itself.
- How does the MET site change our presence? What can the architecture do to engage the immediate community more substantially? How do we not just gentrify the area?
- How do we organize ourselves in the new building? By discipline? By department? By faculty/student interests?
- Can we reimagine a way to organize that facilitates research and interaction? How do we create a balance between autonomy and inclusion? Should it be random?
- What are the spaces that define each department? HTC/Library? Case study room/CRE? ACT/Black box/Gallery? What are the clusters that we can organize around community spaces?

**Can we have a pool on the roof?**

If we imagine the building as a magnet for the community, what do we imagine will bring MIT, Cambridge, and the world to us? What specific spaces might bring the community to us?

Key questions, comments, and observations raised in the conversation included:

- Which activities do we bring to the Met to activate it and make it a connection node? Mentioned were the MIT Press; a restaurant/café with local produce; a farmers market; a gym; multipurpose rooms; space for the Office of the Arts at MIT and gallery; the faculty club; and a “garden in the machine.”
- The roof can be a magnet. What can the roof hold? A conference space? A pool? A community space? A teaching space?
- How can we bring scholars and our global projects to the building? A scholar’s apartment/office?
- Is there a space for a garden? Can landscape be a potential community space to engage a larger public? A public garden?
- Could there be gender-inclusive bathrooms, one of two of which equipped with showers, to accommodate bike commuters and others who might want to access them?
- Could there be secure storage space for sensitive research materials, accessible by ID or coded entry?