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Thank you.
Acres of Crushed Stone: 
The Search for Well-Being in the Built Environment at MIT

By

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ABSTRACT

Happiness research is on the rise. Everyone from economists to psychologists to United Nations policy makers to the country of Bhutan is investigating how happiness, herein defined as a sense of well-being, might be used as a more meaningful metric to judge collective quality of life. The majority of this new research has been confined to the national or global sphere; despite the work of a few, urban areas and public spaces have largely been omitted from happiness study. This thesis aims to bridge that disconnect and to examine well-being at the small, familiar scale of MIT, asking the question: How does the physical environment of MIT affect happiness? To answer this question, using environmental psychology research, I operationalized well-being in the built environment in three ways: as stemming from 1) personal control (the power to customize), 2) social support (different kinds of spaces to foster different kinds of social interaction), and 3) restoration (recovery from mental fatigue through proximity to natural elements). I also interviewed over 10 experts in the fields of planning, design, and mental health, and almost 40 students and staff at MIT (whom I call ‘users of space’). The data from those interviews formed the basis of narration in a film – an hour-long walk through campus (filmed in a single shot), wherein I explored - as one can only do through video - how it really feels to be in these spaces and how they might be improved. The final result revealed an eclectic campus, seemingly planned with little thought towards the whole, and a student and staff population thrilled with their intellectual environment, but lacking the light, greenery, and collaborative spaces to be healthy in their physical one.

Thesis Supervisor: Ezra Glenn
Title: Lecturer
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Happiness is a $10 billion a year industry, with self-improvement books, audiobooks, and seminars generating equivalent returns to the American film industry. Concomitantly, happiness research by academics, non-profits, and governments is on the rise.

In 1973, King Wangchuk of Bhutan coined the phrase “Gross National Happiness,” introducing the idea that a happiness metric might be a more meaningful benchmark for national quality of life than an economic one. Recently, in June 2012, the United Nations adopted Resolution 66/281, declaring an “International Day of Happiness.” The statement argues that “the pursuit of happiness is a fundamental human goal,” and invites member states to further investigate how this pursuit could “promote[] sustainable development, poverty eradication, happiness, and the well-being of all peoples.” Moreover, both the United Nations and Columbia University’s Earth Institute, and the Organization for Economic Cooperation and Development publish highly cited, data-laden reports ranking happiness by country, and outlining how to measure happiness for policy making.

Crucially, these latter two sources define happiness in the way in which I refer to it in this thesis. First, they usefully expand the terminology, where happiness is used interchangeably with ‘subjective well-being’ (I will also use both of these terms, shortening the second to ‘well-being’). Second, they define happiness as an overall sense of life satisfaction and not as a fleeting emotional state.

The majority of the research referenced above is devoted to well-being analysis on the national or global scale. On the one hand, this broadness is logical for the purpose stated by the UN: researchers are concerned with elevating the status of happiness to a worldwide development goal. On the other hand, I and others I know who study and

5 World Happiness Report 2013, 3
practice urban design, have largely been driven to do so because they experience happiness — or not — on a place-based scale.

A personal, visceral example stands out. During a two-week long middle school trip to Prince Edward Island, my classmates and I stayed in the dorms at the University of PEI. Our rooms, and the buildings as a whole, were products of 1980s functionalism, comprised of flat white walls, cinderblocks, and small, horizontal windows. I recall walking into my room for the first time, and feeling any joy I had drain away. Hundreds of miles from home, I felt helpless because I was not able to control my surroundings or to retreat to anywhere familiar. Desperate to make the space more livable, I tore up the few magazines I had brought, and taped them on the walls to bring some color and personality to the space.

In sum, and as I will explore throughout this paper, this thesis is a personal one. It is grounded in the desire to bridge the gap between happiness research and place, where I believe the state of well-being might be just as successfully examined on the granular, site-specific level.

As to why I chose MIT for analysis, I would again cite a combination of personal experience and research. To the personal: since enrolling in Fall 2013, I did not understand what I perceived to be the lack of amenities, underuse of hallmark spaces (like Killian Court), and degraded nature of some of the infrastructure. As I also struggled with anxiety and depression, I could find few spaces on campus that made me feel relaxed, in control, or where I wanted to spend more than 15 minutes with my friends.

To the research aspect of my motivation: as I investigated my own mental health, I also looked into how other MIT students felt. The results were not encouraging, revealing that MIT’s suicide rate over the past 5 years was 12.5 suicides per 100,000 students, almost double the national average of 6.5 to 7.5 suicides per 100,000 students (calculated for the years 1980 and 2009). I reflected on and researched the culture of the Institute, where professors proudly claim that studying here is like ‘drinking from a fire hydrant’ for its intensity, an intensity made more acute by an overall cultural obsession with productivity. Without radically altering MIT’s culture — which also encompasses positive aspects, like ingenuity and resourcefulness — I wondered what a solution or improvement might look like.

This confluence led to my research question: How does the physical environment of MIT affect happiness?

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While few scholars are currently making the explicit connection between happiness and urban planning, well-being shares four natural historical and contemporary connections to both planning and the state of city life.

First, Western political thought has long linked happiness to the built environment and land ownership. The concept of happiness stems from Aristotle’s ‘eudaimonia’ – “to be inhabited or accompanied by a good daimon, or guiding spirit.” Practically speaking, this translated into living virtuously by participating in the polis, where the site of this contribution was the agora – the city square where people exchanged goods and ideas. In this conception, the source of happiness and actualized citizenship was founded in the public plaza.

Closer to home, in an oft-cited example, Thomas Jefferson directly exchanged ‘the pursuit of property’ for ‘the pursuit of happiness’ in the Declaration of Independence. In a *Time* magazine issue about happiness, historian Jon Meacham quoted Gary Wills’ seminal text on the Declaration: “When Jefferson spoke of pursuing happiness, he had nothing vague or private in mind. He meant public happiness which is measurable; which is, indeed, the test of justification of any government.” Meacham went on to characterize Jefferson’s intent in putting happiness front and center: “it had never been granted such pride of place in a new scheme of human government—a pride of place that put the governed, not the governors, at the center of the enterprise.” Here, a primary way in which the governed held power, placing themselves at ‘the center,’ was through property ownership—a piece of land on which to exercise one’s freedom. With these words and the intent behind them, Jefferson inextricably tied a sense of personal fulfillment to space.

Second, the discipline of urban studies largely began as a way to explore behavioral responses to the city. Developed in Chicago – and centered at the University of Chicago – in the early 20th Century, urban sociology came by way of mid-century Paris and Berlin, where social theorists and authors like Georg Simmel, Charles Baudelaire, and later, Walter Benjamin, started to define the new psychological and sociological archetypes wrought from the urban experience. In 1903, Simmel published his essay “The Metropolis and Mental Life,” wherein he explained what the metropolis did to people. Simmel worried most that, “There is perhaps no psychic phenomenon which is so unconditionally reserved to the city as the blase outlook,” or the indifference urbanites develop in response to overstimulation.

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Simmel and his work influenced the founders of the Chicago School of urban sociology, namely Robert Park and Ernest Burgess, whose titular essay in *The City* was subtitled, "Suggestions for the Investigation of Human Behavior in the Urban Environment." The book went on to explore psychological profiles of the urban underclass, like juvenile delinquents and hobos.\(^{11}\) Crucially, Louis Wirth would build upon this work in his formative 1938 essay, "Urbanism as a Way of Life." Wirth spent the majority of the essay detailing how changing social dynamics, like "the segmentalization of human relations which are largely anonymous, superficial, and transitory," radically altered social psychology and organization.\(^{12}\) In sum, most works one would cite as foundational to this discipline directly tackled how urban form affected the collective and individual mind.

Third, in their incipiency, cities were largely organized as religious, economic, or defensive concentrations.\(^{13}\) Today, if one looks at the ethos behind current urban movements, we seem to be living in an era concerned with cities as units of lifestyle – How much can I walk? Is there a store close by? Are the streets ‘complete’ (safe, comfortable, and convenient)? If anyone epitomizes this trend, it is Enrique Peñalosa, the former mayor of Bogotá. Since leaving office in 2001, Peñalosa has spent his life advocating for cities as ‘quality of life’ and ‘social justice’ units; one cannot read a book or an article about happy cities without encountering him.\(^{14}\)

This focus on liveability necessarily, but not always explicitly, takes well-being into account. For example, the Congress for a New Urbanism describes their movement as:

> united around the belief that our physical environment has a direct impact on our chances for happy, prosperous lives. New Urbanists believe that well-designed cities, towns, neighborhoods, and public places help create community: healthy places for people and businesses to thrive and prosper.\(^{15}\)

And yet, and to the fourth connection, this liveable emphasis on health rarely focuses on mental health. Indeed, public health and urban planning increasingly intersect as studies focus on everyday urban objects as health delivery systems, and as more and more cities develop health-oriented design frameworks. To the latter example, New York City’s “Active Design Guidelines” has five signatories from relevant city departments, one of whom is the Commissioner of Health and Mental Hygiene. Despite this contribution, the document contains one passing mention to psychology.\(^{16}\) In the reverse, and to the former example, a recent study by two University of Chicago psychologists examined the health effects of trees on Toronto citizens. While the results focused largely on physical health,

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This study was one of the only works in recent memory to also address certain psychological benefits of the urban fabric.\textsuperscript{17}

This thesis was inspired by those connections, and by bridging the gaps that exist between 1) the conventional wisdom that design should solve problems and improve spatial relations, and 2) the relative lack of focus on mental health in urban planning. In attempting to bridge these gaps, this thesis is situated between four academic disciplines: urban planning, economics, psychology, and environmental psychology.

A specific subgenre of urban planning literature informed this thesis: design analyses that evaluate the effect of space on human experience. I lead my research with the work of Kevin Lynch and William H. Whyte. Lynch, an MIT professor, wrote extensively about the way in which a legible urban form affected people. In \textit{The Image of the City}, he explains how five spatial elements – paths, edges, nodes, landmarks, and districts – principally inform how people read and navigate the city. Whyte founded the Project for Public Spaces in New York. He began as a sociologist, eventually delving into why and how people use space in \textit{The Social Life of Small Urban Spaces}. In this book, Whyte focuses his analysis at a smaller scale than does Lynch – the plaza versus the city level –, and investigates the capacity that seating, light, trees, water, and food can have on drawing people into a place. I employed both of these texts for their implicit message that space and design should create a humane environment, and for the explicit lessons they offer in how to spatialize this humaneness.\textsuperscript{18}

From economic literature, as I’ll discuss below in MEDIUM and METHOD, I took both the seriousness with which subjective well-being is treated and the methods by which happiness is measured. Economics is concerned with the concept of utility, “how human beings value goods and services,” often measured by observed behavior. Before more sophisticated happiness research evolved, the only way in which economists were able to assess well-being levels was by looking at suicide rates, what they termed ‘revealed preferences.’\textsuperscript{19} Now, as evinced by Edward Glaeser’s recent paper on “Unhappy Cities,” economists look to self-reported measures, putting more stock in the reliability of people’s own life assessments. For example, in “Unhappy Cities,” Glaeser bases his entire analysis of urban well-being levels on data from the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System, a nationwide, self-reported mental health questionnaire.\textsuperscript{20} In expanding methodological practices, – ones I’ll employ in my thesis –, economic literature has simultaneously broadened the definition and


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import of happiness beyond ‘observed behavior’ and into how people value social conditions.\textsuperscript{21}

Crucially, both psychology and its subgenre of environmental psychology provided me with an operating definition of happiness as fostered in the built environment. The field of happiness research would not have reached its current level of intensity were it not for Daniel Kahneman, a psychologist who won the Nobel Prize in Economics for his work on hedonic psychology, or, well-being (with implications for behavioral economics). Kahneman’s work popularized ideas about happiness as life circumstance, as opposed to the narrower definition of an emotional state or personal temperament.\textsuperscript{22} When happiness is characterized in the former way, it can be applied to other domains, including the environment.

As such, most of the literature I read fell into environmental psychology, a sub-discipline focused on human-environmental interaction. I first sought out books and articles with explicit connections to architecture and cities, namely, Alain de Botton’s \textit{The Architecture of Happiness} and Kevin Leyden et al.’s “Understanding the Pursuit of Happiness in Ten Major Cities.”\textsuperscript{23} Where these sources were either too abstract or too concerned with metrics, I found two texts that were, at least in part, devoted to defining well-being through physical factors. With these sources, I was able to operationalize happiness as stemming from the following:

\begin{enumerate}
  \item \textbf{Personal control} or the power to customize. This includes noise and atmospheric control, ease of navigability, deciding how and where to orient yourself, and being able to adjust your environment to support your needs.
  \item \textbf{Social support}. This means having access to a variety spaces that allow for both privacy, social contact, and the ability to meet new people. This element also pertains to ‘sense of place,’ or the creation of a unique environment where one can feel rooted.
  \item \textbf{Restoration} or recovery from mental fatigue. This not only involves attractive and safe places, but a connection with nature, sufficient light, air, greenery, and calm.\textsuperscript{24}
\end{enumerate}

These are the definitions I employ in the film to assess how spaces at MIT are working.

From a filmic perspective, this thesis sits at the intersection of three works: Whyte’s \textit{The Social Life of Small Urban Spaces}, Lynch’s point-of-view video, and Patrick Keiller’s

\begin{footnotesize}
\textsuperscript{21} \textit{Happiness: A Revolution in Economics}, x.
\end{footnotesize}
London. In the process of researching for this thesis, I watched all the films I could think of that pertained to either mental, city, or architectural life. These three works were those that best captured how it felt to be in space (more on this below in MEDIUM and METHOD).

Similar to his written work, Whyte’s film is both playful and informative; like the book of the same name, Social Life the film shows us the use of Midtown New York’s public spaces with witty narration that always reminds the viewer of the importance of the subject. It explicitly explores social behavior as shaped by space, though it does so through voyeurism and not through an intense engagement with space, as I would end up doing.25

Lynch’s film, A View from the Road, is a three-minute trip around Cambridge and Boston. The camera is mounted on the dashboard of a car, where it films a single, sped-up shot of the drive. In its simplicity, View asks nothing more of the watcher than to think about how they perceive city form throughout this short, uninterrupted experience.26

London is a dense, reference-laden “visual diary” of two fictional friends’ walk around post-Thatcher London. It’s never clear whether the film’s glib narrator is fully sane, but he nonetheless conveys two important kinds of information that I directly applied to my film. First, he doesn’t shy away from what he sees as London’s increasing negativity – its equal dilapidation and homogenization. Second, as I’ll discuss in filmmaking process and methods (page 19), the narrator makes clear that being in one place – say, outside of St. James’s Palace – also means you’re in another. In this case, you might be in 1990s London while evoking 16th Century history; you might be in the present, but you may also be thinking of the past or the future. More so, where space is written by social norms and cultural ideals, the narrator reminds the viewer that in an urban place, you’re in an economic and political context, in addition to being in a spatial one.27

Crucially, Keiller was influenced by the Situationists, a group of Parisian theorists led by Guy Debord, who developed the idea of the dérive in the late 1950s. Debord defined the dérive as, “a technique of rapid passage through varied ambiences. Dérives involve playful-constructive behavior and awareness of psychogeographical effects, and are thus quite different from the classic notions of journey or stroll.” Moreover, as both Debord and Keiller make clear, place and neighborhood “is determined not only by geographical and economic factors, but also by the image that its inhabitants and those of other neighborhoods have of it:” the axes of passage, exits, defenses, pivotal points, and the psychological (not geographic) distance that separates two areas.28 As the analysis below will elucidate, my thesis film attempted to capture these same premises – of social context and psychological effect.

26 A View from the Road, Kevin Lynch, 1958, MIT.
MEDIUM and METHOD

...why make a film

The tradition in psychological, economic, and policy-oriented happiness research is to determine someone's well-being by asking them. In Bruno Frey's *Happiness: A Revolution in Economics*, he explains:

A subjective view of utility recognizes that everyone has his or her own ideas about happiness and the good life, and that observed behavior is an incomplete indicator of individual well-being. If one accepts this view, individual's happiness can nevertheless be captured and analyzed: a person can be asked how satisfied he is with his life. It is a sensible tradition in economics to rely on the judgment of the person directly involved. People are reckoned to be the best judges of the overall quality of their lives, and it is a straightforward strategy to ask them about their well-being.²⁹

While I could have written a paper describing MIT's campus and its attributes, that would not have allowed a reader to participate in a diagnosis of the environment. Instead, through film, the viewer is placed in the role of the questioned: how do they feel about the space as they move through it? Do they agree or disagree with my or others' experiences of the spaces, having, instead, 'his or her own ideas about happiness'? Considered in this tradition, this thesis could have only been completed through film.

Otherwise, film is one of the best ways to capture the experiential aspects of space and to provide an immersive experience of what it's like to be at MIT; the very premise of my thesis is about how the rubber hits the road, or in this case, how the body and mind meet space. Filmmaking can also force you to reckon with what's there. In this case, the film takes an occupant of MIT out of their daily routine – it took me out of mine – because one can't do anything but think about the space surrounding you while walking with a camera or watching the film. For some, that might mean realizing how many white corridors there are. For others, like me, it was more positive; I found there to be more spaces of interest than I thought, and that even in those 'negative' spaces, there were elements of promise.

...filmmaking process and methods

It took me several months to determine where to site this film. From the outset, I knew that my subject would be happiness and that, as described directly above, making a film would be the best way to explore these ideas and implicitly engage viewers in a discussion. As outlined in THIS THESIS (page 6-7), I chose MIT because of its poor mental health record.

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²⁹ *Happiness: A Revolution in Economics*, 17.
After settling on the site and film as both a medium and method, I not only began to conduct traditional research from books and journals, but I also began to attend school-wide meetings about mental health, to better gauge the pulse of the student and staff body. Through these meetings, I spoke informally with a range of people, and decided that in addition to assessing MIT’s built environment through theory, that I would need to engage in the culture more deeply by interviewing people as a third thesis method.

From late March to late April 2015, I interviewed 50 people. Twelve of those interviewees were ‘experts,’ professionals in the mental health and design professions. I selected these people based on my own research and recommendations by my advisor, Ezra Glenn; they ranged from psychologists to planning professors at MIT and other Boston schools, to members or former members of MIT’s Office of Campus Planning. My goal was to speak to people with diverse experiences at MIT, and with planning, design, and mental health. Below is a list of those I spoke with by their title or descriptor (interviews were conducted anonymously):

1. Mental Health Professional (March 24)
2. MIT Planner (March 25)
3. Former MIT Planner (March 27)
4. Architecture Professor (March 27)
5. MIT Planner (March 27)
6. MIT Planning Professor (March 30)
7. MIT Planning Professor (March 31)
8. Northeastern University Planner (April 7)
9. Private Sector Campus Designer (April 10)
10. MIT Senior Administration Official (April 14)
11. Tufts University Planning Professor (April 17)
12. Harvard University Planner (April 21)

At the same time, I sought to interview MIT staff members and students as ‘users of space.’ I developed a set of questions both to 1) assess their opinions of campus, and also 2) to compare their answers with those of the experts (for example, does someone with knowledge of best design practices have a different opinion of Killian Court than does a layperson?). See below for sample questions:

1. Today, I’ve met you in (X PLACE):
   a. why are you here now?
   b. What does it feel like to be here?
   c. What do you like about it?
   d. Is there anything you’d change that would make you feel more comfortable or happy?
2. What public space on campus makes you feel happiest?
   a. Can you explain what it feels like to be there? (Encourage to use adjectives, colors, etc.)
   b. What about most unhappy? What does it feel like to be there?
3. Do you go to buildings that are out of the way? If it isn’t your department, but it’s beautiful or has a good study space, will you venture further afield?
   a. Put another way: What makes you venture elsewhere?
4. Did you visit campus before enrolling?
   a. If so, what area did you like and make you want to come here?
   b. Is that still an important place to you?

5. Where do you feel most connected to others? Why?

6. Where do you feel most relaxed? Why?

7. Do you feel confident navigating around campus?
   a. Can you give clear directions to someone else?

While I began by conducting man-on-the-street style interviews (approaching people randomly in a given space), I found that though most were willing to talk for a few minutes, I was not able to get to the desired level of depth in conversations with people on the go. Accordingly, I shifted to recruiting those who might consent to slightly longer interviews (about 15 minutes, as opposed to five when approached at random). I put out notices on email list serves and set up a booth in the Stata Center. In the end, I spoke to five people randomly, ten from ads, and 23 at the booth in Stata, for a total of 38 user interviews.

This interview method was not only crucial for the data I collected about how users felt – how did they describe campus overall, for example? Did they even think about the space? Did their experience of certain spaces taint their overall life here? It was just as important for where they spoke about; it was in reviewing the 50 sets of interview notes that I was able to select the specific locations shown in the film.

As soon as I had selected MIT as the general site of my thesis, I knew I wanted to make the film in a single shot. In doing this, I hoped to capture the full arc of someone’s emotional experience on campus – how it felt to weave in and out of corridors, from the older, Main Complex, through some barren outdoor spaces, to newer parts of East Campus. In sum, a single shot allows for no escape, what replicates the experience of students and staff who often aren’t allowed to pause during the long days of work. See Image 1: Legend and Map for full list and map of filming locations.

Image 1: Legend

<table>
<thead>
<tr>
<th>1. Stratton Student Center</th>
<th>11. Walker Memorial Library Alley</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Walk across Mass. Ave. to Lobby 7</td>
<td>12. McDermott Court</td>
</tr>
<tr>
<td>3. Infinite Corridor</td>
<td>13. Laurie Olin Landscape</td>
</tr>
<tr>
<td>4. Lobby 10</td>
<td>14. Compton Court Parking Lot</td>
</tr>
<tr>
<td>5. Killian Court</td>
<td>15. Ray and Maria Stata Center</td>
</tr>
<tr>
<td>7. Infinite Corridor</td>
<td>17. Transition across Ames Street</td>
</tr>
<tr>
<td>8. “Bars of Color Within Squares”</td>
<td>18. Unnamed Plaza by Health Services</td>
</tr>
</tbody>
</table>
Image 1: Map of Walk Taken in Acres of Crushed Stone

Source: MIT Campus Map, altered by author.
I did some preliminary filming to get become conversant with the technical aspects of my camera, especially where light/white balance is concerned. White balance adjusts the picture tone so that white objects look white. I shot the film with Automatic White Balance (AWB), where the camera adjusts the image tone depending on how it reads the environment. I did this, in part, because I was moving through indoor and outdoor spaces, where a white balance setting of ‘Natural Daylight’ would have skewed interior images.

I also settled on AWB because using any of the other settings unduly biased the tone of the film. For example, interior lighting is often shot using the Tungsten or White Fluorescent settings, but in both of these cases, in the camera’s attempt to minimize yellow tones, the resulting images were tinged blue or grey. If I had wanted to emphasize the icy quality of some of MIT’s environments, I would have employed one of these settings. Instead, in an attempt to let the viewer decide how he or she felt about the environment, I stuck with AWB. Though through employing this setting, the camera sometimes take a moment to adjust from indoor to outdoor environment, it nonetheless captures a more neutral portrait of the campus, hopefully allowing the facts and the spaces to speak for themselves. For a contrast, see Images 2a and 2b.

![Image 2a: White Fluorescent setting](image1.png) ![Image 2b: AWB setting](image2.png)

*Source: Photos by author.*

After these initial test shots, I filmed the 50 or so minute walk around campus seven times, each time learning and adjusting. In addition to informing where I shot, my interviews informed exactly what to shoot to capture campus qualities expressed by interviewees. For example, many people spoke positively and negatively about the winding, off-kilter nature of the Stata center. When I originally entered through its west entrance, I simply walked through a set of double doors. Upon reviewing the footage from the first walk, I found out that a better to way to demonstrate the unique-but-sometimes-disorienting nature of Stata would be to pan up the side of the building, capturing the odd angles. See Images 3a and 3b for this evolution.
Like the interviews leading to the film, the film led to the script. My research and interview data allowed me to form conclusions about what I was seeing in the built environment and why it was occurring. For example, the twelve experts I spoke to all agreed that the MIT administration displayed little to no vision when it came to designing for a holistic campus. The research bore this out, where I found that no master plan had been implemented since the 1975 revision of the 1960 Master Plan. But how and where to talk about this in the narration?

Though I couldn’t change the facts about what people had said or what the research elucidated, I could discuss broader concepts in the way I chose. To ascertain the spatial location of narrative elements, I made a story board with Post-It notes, so I could move around different concepts (each a note) to build a narrative flow (Image 4). In going through this exercise, it seemed like broader concepts naturally found their home. For example, I suspected that discussing the founding building principles of MIT should go close to the beginning of the film; because these principles are spatialized in both Lobby 7 and the Infinite Corridor, those two locations became the site of that history. Where the Compton parking lot, beside the west side of Stata, seemed like an example of the lack of master planning, that lot then became the site to discuss my research that backed up interviewees’ assertions. In sum, storyboarding allowed me to match space with idea.

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The other, major piece of the filmmaking process is animation, and how my ideas evolved regarding what else to put on the screen. I had originally envisioned the filmed walk centered on the screen surrounded by a black border. In this border, associated images would pop up. For example, as suggested by my thesis reader, Kelly Nipper, when you are in one place physically, you can mentally be in the many other places, other spaces that remind you of your current location. In this first animation scenario, the filmed walked who have been ‘the eyes’ and the images that popped up around it would have been ‘the brain’ (Image 5). I eventually discarded this idea because, as discussed above, I wanted the film to leave the viewer with some agency, in this case to infer their own references to other places they had been.
In its second iteration, I imagined the animations as a pen marking the screen to point out elements perhaps otherwise missed (Image 6). This would recall not only a sports recap, where commentators demonstrate plays onscreen with circles and arrows, but a design review, where, for example, teachers take their pens to your plans for a park. On the one hand, I thought this tradition fitting for the film – in some ways, it’s a filmic design review. One the other hand, as recalled my first animation concept, this approach seemed too leading, robbing the viewer of agency to form their own conclusions about MIT’s campus or even notice elements that I had not thought to critique.

The third and final iteration is an attempt both 1) to remind viewers of the main subject of the film and 2) to more subtly emphasize elements of space. In the final film, three icons appear in the lower right hand corner of the screen (Image 7), each representing one of the three ways in which well-being is spatialized in the built environment: the steering wheel stands in for personal control, the people represent social support, and the flower typifies recovery from mental fatigue. Every time one of these 3 elements is present in a given location – or could be present with redevelopment – the icon lights up.

Image 7: Final animation concept

To call attention to spatial features, the final film also applies changes in motion. This is best illustrated by a few examples. First, crossing from the Stratton Student Center to Building 7 along an outdoor path (1 to 2 in Image 1), the narration address the way in MIT is more of a network than a traditional, quad-based campus. To emphasize this quality, the film rewinds and makes the viewer go through the space again, this time experiencing it with the ‘network’ idea in mind. Second, the film explores a large Alexander Calder sculpture in McDermott Court (11 to 12 in Image 1). Here, the narration discusses the role of public art in crafting novel experiences. As the narration plays, the film freezes at a few points, inviting the viewer to consider the many ways in which to interact with the sculpture on their own. Finally, the film sometimes moves in slow motion. The moments at which this happens are deliberate attempts to have the viewer sit with a space for longer: to consider what is being said, what is there, and what could be there. In sum, these effects attempt to hint at but not direct the viewer.

31 MIT Planning Professor (March 31).
FINDINGS and RECOMMENDATIONS

... what i learned about filmmaking

Film was not just the result of this thesis, but its method.

I learned a new way of thinking about and analyzing MIT through the camera. I noticed new spatial elements by looking at places through the camera. For example, while I also thought the pavement between McDermott Court and the Green Earth Sciences Building was forbidding (12 in Image 1), I never realized how much of it there was – almost 420 feet, or over two minutes, walking at a brisk pace.

More than this, I internalized these spaces in an unanticipated way. Filming, especially filming in a single shot, was as much as exercise in choreography as it was in photography. Before going out on each of the seven walks, I created a detailed shot list to memorize. As I moved from the first walk through the seventh over a few weeks, I stopped reading the list. Instead, I closed my eyes before the journey, and moved my arms and shoulders around in the way I’d need to capture the desired footage. Then, in moving my body through MIT’s spaces, often needing to contort a bit to get the correct framing, I found out whether the places I was assessing were actually built to accommodate the human body. Could I move through successfully without hitting anyone else? Did these spaces allow for even the smallest freedom of anatomical expression? The act of filming, and moving my own body through space, created a deeper level of somatic analysis.

I was also able to fact check through the act of filming. After my interviews, I could venture into campus with a camera, and figure out whether what someone had said was true. If it was, it could usually be captured. For example, I was surprised to hear how many undergraduates thought of MIT as a campus of small spaces. Simply taking my cinematic walk, I discovered that it was. This feature had escape me before, when my mind and eyes skipped over unnecessary point C when I was previously walking (likely rushing) from point A to point B. With a camera, you can’t ignore what ends up on film; it’s a visual reckoning.

In sum, camerawork is an argument. For example, in earlier walks, I captured many shots that weren’t working, and initially, I couldn’t figure out why. On the whole, these were transition shots from, say, the Laurie Olin landscape to the Stata Center (13 to 15 in Image 1). Indeed, there’s a parking lot in between the two places, and part of the problem with creating a film in a single shot is that you capture everything.

At first, I threw this parking lot shot away, rushing through the space to get to the place on its other side. When I reviewed the footage, it felt weak and deceptive, as if I were sweeping crumbs under the rug. The shot didn’t work because it made no statement and had no perspective. Even worse, by rushing through the lot, I was trying to visually deny there was a problem—a gap in my thinking.
I went back. Instead of looking at the lot as a necessary, transitory evil, I refocused on it as a narrative piece. I slowed down and captured what I saw anew: a parking lot beside a busy playground and at the precipice to a major building’s major entrance. That set piece, 14 in Image 1, is now a crucial line of inquiry in the film about building for the pedestrian and thinking about the spaces between buildings. Through the camera, I found an on-the-go editor, an agent outside of me who knocked down my intellectual argument by pointing out the flaws in the filmic one.

Finally, the most unexpected way in which filming shaped this project was how it shaped my life throughout the months of work. I could not have anticipated how much I would live this thesis, and, in turn, how much that would affect the film. This thesis is all I thought about for months, because every day as I entered Lobby 7, I came face to face with my subject. Where could I find something new to say?

In search of an answer, I became more deeply immersed in MIT’s culture than I had up to that point. This experience allowed me to understand the school better and it also allowed the thesis to change: instead of aiming for a dispassionate, academic view of MIT, I started to create an ethnography, one in which I was a participant.

Usually the domain of anthropologists, an ethnography is the study of peoples and cultures. More than a simple ethnography, however, I necessarily became a participant in this one. In his seminal The Interpretation of Cultures, Clifford Geertz writes about culture, “Believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretative one in search of meaning.” He goes on to explain that ethnography is not only about ‘establishing rapport’ and ‘keeping a diary’ – as I did – but about conveying context.  

By diving deeper into the culture of MIT – speaking to as many people as I could on and off the record, attending meetings about mental health, and especially exploring places through film that I had previously never heard of – I attempted to do just this: participate more as to convey greater context, and implicitly delve into phenomenology, the study of experience from a first-person perspective. This made the thesis richer; not only did I attempt to look at a grey walkway and identify it as poor design, but to contextualize why it was so and how it felt to be there.

... what I learned about urban planning

Not only did I learn about filmmaking through this thesis, but I also learned two lessons about my discipline. While both are relatively simple, they are fundamental nonetheless.

First, film and urban design are analogous in their need to make arguments visually. As discussed directly above, when a shot wasn’t working, it was due to the fact that it wasn’t

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making an argument; it was simply there, but for no purpose. Similarly, in thinking about the planning of MIT’s campus, I discovered that, often, when spaces don’t work – if they provoke anxiety, for example—it’s because their authors haven’t adequately conveyed a message. For example, the walk from North Court across Ames Street to the Health Services plaza (17 in Image 1) is a major east-west campus throughway. It provokes anxiety in me because while I know it’s the most direct way to get from west to east, there’s no obvious place to walk where I’m not in the crosshairs of a vehicle. Here, the narrative is confused: for whom is this passage built? Like a good written work, good design displays a cogent argument, clear motives, and guideposts.

Second, I entered this profession, in part, because I loved that anyone could engage in a discussion about their city; everyone in planning is an expert, you just have to give them an opportunity to find out. I learned something comparable while interviewing users of space: people have an intuitive sense of what kinds of places are good for them, though they often don’t know how to express themselves in spatial terms. As I’ll expand upon in realistic changes for a happier campus below, people are excited to engage with you about space, partly, I suspect, because throughout the conversation, they realize they know more and have more opinions about it than they’d previously known. Critically, where intuition exists, spatial literacy does not. Enhancing this literacy, a tacit goal of this thesis, might lead to better design; a problem cannot be solved if it cannot be identified, and people cannot advocate if they don’t speak the language.

This process and the people I spoke with taught me three things from a personal perspective, all of which had academic implications.

The first was to be less negative about the MIT campus. As someone inclined towards design and aesthetics, I was overly critical about what MIT did poorly and not lenient enough in recognizing what campus did well. Walking the campus over seven times to make the film and interviewing students – especially undergraduates —, I realized that MIT, at least in part, simply expressed a different ethic than that to which I was accustomed. I include this revelation here not for feel-good value, but because this shift in attitude allowed me to diagnose campus architecture and planning in a different, clearer way. Instead of rejecting the design on its face, I was able to look at how the school might build towards a more efficient and powerful expression of its values.

Second, I learned just how much we need to think about well-being in a broad capacity. I’ve been interested in happiness research for a few years, and as such, have worked on two other class projects about this subject matter. Both were met with some measure of derision. Instead of retreating from the field because of those experiences, this thesis allowed me to more deeply investigate my belief in well-being as a tenet of design.

Setting aside MIT’s poor mental health record for a moment, 30% of the global population will suffer from a mood or anxiety disorder at some point during in their
lifetime. These numbers, coupled with taboos surrounding therapy, lead me to question whether improved mental health should only be sought behind the walls of a doctor’s office. In the process of making this thesis, I spoke to Izzy Lloyd, an MIT freshman who created the initiative, Tell Me About Your Day. TMAYD attempts to bring a discussion about mental health out from behind those walls. By wearing plastic bracelets with the TMAYD initials, a student can signal to others that they care about them and would be willing to listen if someone was having a rough time.

As this relates to this thesis, my research has only strengthened my sense that mental health should be approached in a holistic capacity, just as formed and bolstered in a hallway or a park as it is by a bracelet or a doctor. I hope to continue challenging people to think about space in this new way, and to argue for happiness through space as a vital goal, not a flighty one.

Finally, up to this final writing, I was honestly worried that this paper would be a misplaced addendum to my film. Instead, this piece has crucially allowed me to clarify my own intentions—filmic and otherwise.

I was unsure of what the paper portion of a media thesis should look like, what led me to research Ruth Sappelt’s work. She was a Master in City Planning student who made a film last year (2014). Ruth’s paper, so individual in its explanation of why she made a documentary to tackle the experience of public housing, made me realize how personal one’s motivations can be without sacrificing academic value. In my case, and as discussed above, both the personal underpinnings of this work and the nature of happiness research allowed me to create something unanticipated: an ethnography through participant observation.

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realistic changes for a happier campus

1. **Plan towards the whole.** As described in *filmmaking process and methods* (page 18), MIT has not, seemingly, created a master plan since 1975. In the intervening years, the Office of Campus Planning has created numerous building- or area-level plans, what have largely forgotten campus interstitial spaces. In 2001, the school commissioned a “Framework for Campus Development” from the landscape architecture firm Olin Partnership. This document describes a ‘crisis landscape’: an “accretion of leftovers,” where “the sense and structure is difficult to perceive...and enjoyment—the sensuous, generous pleasure of well-made space— is often a matter of will.” Solving this crisis and better knitting the campus together would be the first step in planning holistically.

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2. **Build or fix at different scales.** Happy space is not a typology in and of itself; instead, creating well-being involves designing spaces for different situations. For example, the way in which social support is operationalized in the built environment, as described in WELL-BEING and URBAN PLANNING (page 11), is through the creation of spaces for rest and activity, solitude and communality. New or refurbished spaces should not all be of one kind.

3. **Activate Killian Court** to define a symbolic and actual center of campus, and as an important gesture towards a more collaborative, mixed-use campus. One way to do this would be to host healthy, rotating food carts. "If you want to seed a place with activity," wrote Whyte, "put out food." This would (generally) solve for the lack of amenities on campus and (specifically) help to reverse the current food desert.

4. **Make campus more interactive and collaborative.** Tactical urbanism – low-cost, temporary, and often ground-up interventions – is a current trend in urban planning.\(^\text{38}\) MIT should not plan ‘tactically’ because it’s a trend, but because this kind of ‘hacktivism’ is in the school’s DNA. While campus has design problems, I found that students had a lot of agency in discovering places to appreciate – nooks and crannies to make their own. Making campus more interactive would heighten this agency. This could include:

   a. **Creating meaningful green landscape.** Long time MIT campus planner, Bob Simha, worked on an evolving Landscape Master Plan from the 1960s to the 1990s. In one of its final iterations, the plan explored “the possibility of developing a landscape that, in its floral diversity, could be an arboretum useful in teaching and research.”\(^\text{39}\) Such a landscape could be beautiful and practical. Moreover, space could be set aside for classwork: for students to learn from the environment and contribute to it by planting as part of the curriculum.

   b. **Letting students make stuff.** During the 2006 rush process for the East Campus dorm, students built carnival rides – include a roller coaster – mostly out of wood.\(^\text{40}\) MIT is brimming with this kind of creativity that could be brought out in different public spaces on a temporary basis.

   c. **Using moveable furniture to create destinations.** As an MIT Planning Professor said (in *filmmaking process and methods*, page 21), campus is often somewhere to move through instead of to be. Moveable chairs and

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\(^{37}\) *The Social Life of Small Urban Spaces*, 50.


\(^{39}\) *MIT Campus Planning*, 22.

tables can help to create more places, instead of more paths. In April 2015, I spoke at length to a Harvard University Planner about the transformation of Harvard Yard via furniture. She relayed that moveable furniture created a beating heart where one previously didn’t exist, as students took ownership of the Yard and visitors felt comfortable venturing off the paths. “It was a release for everyone,” she described of the installation in general, and of a specific moment when students gathered to play musical chairs.41

5. **Engage the MIT population in discussion more often.** Experts, especially those who worked on the Sean Collier Memorial and the East Campus/Kendall Gateway, assessed that the MIT administration was unusually collaborative about building, soliciting staff and student feedback through committees.42 I would strongly encourage engaging students on an even broader level, and not only through committees for specific projects. In mentioning this thesis in passing to a wide variety of people, a chorus of voices responded with intense interest. Based on my experience, I would conclude that the MIT population cares deeply about both mental health and the campus environment, and simply needs more structured but informal opportunities to discuss and learn about both.

**LIMITATIONS**

... qualifications and applications

The primary qualification to this research is that: not every space needs to be happiness-oriented, nor should it be the aspiration of a person to be happy all the time. This thesis suggests neither of these scenarios, and not only because they are unrealistic. As with the idea that well-being oriented spaces are not all of one sort – some are big, some are small, some are quiet, some are loud –, people need variety and contrast in order to feel well.43 Moreover, this thesis treats happiness as an overall measure of quality of life; fleeting sadness or stress does not negate the broader goal to design for a generalized sense of satisfaction.44

The primary limitation of this thesis is also one of its primary values. That is: this is the study of one place. This thesis is about MIT, not Harvard or even Cambridge. That said, the research that supports this place-based inquiry is broad; it stems from how the majority of human beings would react to white walls or endless corridors. In that way, it would not be surprising if students on another campus or commuters in a Boston T

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41 Harvard University Planner (April 21).
42 Architecture Professor (March 27); Mental Health Professional (March 24); MIT Senior Administration Official (April 14).
station had similar reactions to similar spatial features. This is a case study, but an applicable one.

Simultaneously as this specificity is a weakness, it’s also the purpose of this work. As Frey explains, happiness is a measure of individual appraisals and subjective opinions. In that sense, this is a film through my own eyes that includes interview data from other, subjective individuals. Indeed, I spoke at length with my advisor about the fact that I was not aiming for statistical significance in my questionnaires. Instead, I aimed to discover the intricacies of individual experiences – including my own.

**CONCLUSION**

*summary of approaches and lessons*

This thesis began with happiness research – largely the disciplinary domain of psychology, economics, global development, and environmental psychology —, applying its definitions, methodology, and the idea of its importance to urban studies and planning. In doing this, I attempted to tap into the origins of the planning discipline, what began, in part, as a response to the psychological effects of metropolitan life. Moreover, this work attempts to invoke that of Kevin Lynch and William H. Whyte — whose primary ideas were about how people experience space – in order to bring well-being back to the forefront of planning thought.

I applied those experiential ideas to the MIT campus, an institution that could be doing more to foster the well-being of its staff and students. To investigate the extent to which the school’s physical fabric supported well-being, I focused my inquiry with the research question: how does the physical environment of MIT affect happiness?

I answered this question by employing three methods. First, I conducted traditional, archival research from the library. Second, I interviewed 38 users of space, and 12 design and mental health experts. Third, I made a film based on those first two methods. Answers from the interviews informed the shooting locations, and archival research allowed me to confirm the theoretical basis of these answers.

As for the film itself, not just a method but also the result of this work, I created it as an hour-long walk through campus hoping to put viewers in the position of questioning how they experienced MIT’s places. Film is a visceral, immersive experience; no words on a page could have captured this argument in the same way.

In framing this inquiry, conducting interviews, and creating a video, I learned about filmmaking, urban planning, and the MIT campus. To filmmaking and urban planning: I found that as with every paragraph in a paper, every shot in a film should have a purpose. Similarly, in assessing the quality of a campus or any design, every space should make an argument, and when that argument or perspective is not there, poorer spaces often result.
Finally, to the MIT campus: in keeping with the ingenuity and dynamism of its students, MIT should adjust its campus to become more interactive and more mixed-use. Students here are inclined to be makers and fixers; creating more flexible spaces would not only harness that energy, but also foster a greater sense of personal control and in doing this, lead to more spaces inclined towards social support and restoration.
In addition to finding a digital copy of the film in the library, you can view *Acres of Crushed Stone* on Vimeo.

https://vimeo.com/user39919478/review/136597208/da389c456c
password: dusp2016
THREE.

ACRES of CRUSHED STONE

film script

All interviews were conducted anonymously. Participants are described by their general title, like ‘sophomore in Physics’ or ‘MIT Planning Professor.’ All quotations are read by actors.

BLACK SCREEN

I’d like to buy the world a home/
And furnish it with love
Grow apple trees and honey bees/
And snow white turtledoves

SCROLL DOWN CONCRETE

I’d like to teach the world to sing/
In perfect harmony/
I’d like to buy the world a Coke/
And keep it company/
It’s the real thing/
What the world wants today

CUT TO BLACK

No! This is not a story about that kind of happiness – that momentary elation and cool as you swig from a glass bottle, beaded with sweat, or the sense of arrival as you buy a new a piece of clothing, flush with the anticipation of who you’ll become when you wear it.

That’s a statement worth repeating: this is not a story about happiness as a fleeting emotional state.

CUT TO ME

No, this is a story about MIT and about a particular way in which the school does or does not support its students. One need know very little about this distinguished Institute to know of its ingenuity – not only how many things are made here, but also the quirky independence of its students. These are the kind of people that put a police cruiser on top of the Great Dome. But here, there’s also academic rigor and pressure. In fact, it is often referred to – sometimes sentimentally – as possessing ‘a culture of suffering.’

1 Mental Health Professional (March 24, 2015).
While creating the future will always be demanding, there is a question as to whether MIT's stressors are not just intellectual, but stem from the physical - the campus built environment - the architecture, the outdoor spaces, the hallways, and everything in between.

When I first came to MIT in 2013, I loved my classes but hated the spaces around them. Coming from Princeton as an undergrad – a campus with 500 mostly green acres and sycamore trees dating back to the Stamp Act – MIT was shocking in its overwhelming greyness - those ‘acres of crushed stone’ described by John Rockefeller, Jr. As I also struggled with stress and anxiety here, I found myself constantly searching for spaces of respite along the Infinite Corridor or along the Charles or anywhere, really.

That search is why I came to make this film for my Master’s thesis. I led with the question: How does the physical environment of MIT affect happiness?, recognizing that while I could be the protagonist of this story, in reality there are 23,000 protagonists – everyone who works and studies here – all of whom could be affected by the answer.

I put this question to 38 MIT students and staff members – whom I’ll call users of space – and to 12 design, mental health, and educational professionals – whom I’ll call experts. These interviews served two purposes:

1) The best way to determine someone’s happiness is to ask them. This is a foundational concept in happiness research, used, for example, by the Centers for Disease Control and Prevention in their Behavioral Risk Factor Surveillance System, a nationwide questionnaire about mental health.

2) These interviews allowed me to probe another question: do experts think about how campus is performing in a different way than users do? For example, when someone knows best design practices, does that lead him or her to a different conclusion about MIT’s physical space?

The answer, surprisingly, is no. First, experts and users alike agreed that MIT is an eclectic campus that does seem to be planned with little thought towards the whole. Second, while participants largely described themselves as happy, and are certainly thrilled with their intellectual environment, they did express the need for more natural light, greenery, and collaborative spaces to feel healthier in their physical one.

And the third conclusion is personal, but was also expressed to me by many users: this place is not just a grey expanse. If you take responsibility to engage with these spaces, you’ll usually find something unexpected and happy-making.

If this happiness I’m referring to, though, isn’t a fleeting emotional state, then what is it? Happiness, as defined by the psychologists and economists who study it, is used

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interchangeably with the term ‘well-being,’ and is a sense of overall life satisfaction – in this case, it’s “Are you happy with MIT as a whole?” not, “Were you happy last Tuesday after you handed in your final?”

In the built environment, well-being is operationalized in three ways:

Through personal control or the power to customize: when you’re in charge of noise level, how crowded a room is, where you sit down, or what you path you take.

Through social support: where there are spaces in which to be alone or in a group, where you might easily meet new people, or spaces that have unique elements that allow you to form an attachment to place or feel part of a whole.

Through restoration or recovery from mental fatigue: this usually involves being in or around nature, with sufficient light, air, greenery, and calm.

These icons will light up throughout the film when these elements are present or could be present.

Before we look at how MIT stacks up, I should note that this is a study of one place, though for the way in which we’ll be looking at broad spatial and psychological concepts, it will apply to other places; not just campuses, but analyzing any space through the lens of well-being. Finally, in addition to including interviews and archival research, this is a film through my own eyes, deeply informed by my own experience. As such, it should be treated as an anthropology of MIT, where, like Margaret Mead and Clifford Geertz, I’ve necessarily employed participant observation to get at my subject.

Now, let’s return to campus.

STRATTON STUDENT CENTER

Here’s the most hated place on campus: the Stratton Student Center. *Ironic*

It’s been described as ‘a mess’ - sticky, convoluted, and pungent with the moist wafting of burrito meat –, but the biggest complaint is the feeling of being crushed by the building. “I’m mentally aware of the weight on top of me,” said one second-year Master’s student and former MIT temp (April 16, 2015).

At this moment, I should point out that this is not a story of architectural taste— or in this case, of brutalism as a possibly unfortunate midcentury detour into fortification chic.

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Instead, this is about how space affects psychology, and the toll that thick walls, low ceilings, and dark hallways can take, or, in the reverse, how nourishing greenery, openness, and light can be.

The fact remains that an overarching description of MIT is “bomb proof…sturdy and unbreakable and unyielding. The nature of that makes it very difficult to relate to,” explained a senior in Mechanical Engineering (April 27, 2015).

If anywhere, people should relate to Stratton simply because of the sheer number of amenities – a grocery, a post office, an optician, and more. And yet, as a third-year PhD said succinctly, “It doesn’t feel like it’s made for students, but made just to say we have a student center. Here are all the amenities...[without] thought about how people use it” (April 23, 2015).

In this sense, Stratton is a good representation of the colloquialism: We accept the campus we think we deserve. That’s to say: people can get used to anything and become inured to that which doesn’t work if they encounter it daily.

Because people *use* Stratton, but they do so with the resentment of those whose actions have been constricted by time. We have work to do, and nowhere else to get new eyeglasses or mail a package. This experience is defined by the food options—or lack thereof. After categorically calling it a food desert, an MIT Planning Professor assessed, “Especially in regards to meeting people and getting food, we’re terrifically underperforming” (March 30, 2015).

Stratton is the first inkling that this campus has enshrined into its physical fabric not the equally present culture of innovation, but, instead, the culture of suffering— that’s to say a kind of single-minded focus on work and a resigned pride in the accompanying dilapidation.

And yet! Here’s a small suggestion that things could be otherwise – a bulletin board full of intention and activity. As you’ll come to see, many walls at MIT are covered in event notices – and people actually stop to read them, engaging with each other and the space ever so subtly.

*Ugh. Filthy fingerprints*

FROM STUDENT CENTER TO ENTRANCE AT 77 MASS AVE.

We’re encountering lots of pavement now, and abundant barriers to access – otherwise known as ‘stairs.’ This pavement and these barriers are unfortunate consistencies in a campus whose style is otherwise described as ‘hodgepodge,’ ‘eclectic,’ ‘mixed,’ and ‘jumbled.’ Indeed, about 40% of users and experts described MIT using a variation on these terms.
There is a forbidding greyness along this path, an overall school color scheme that one Senior Electrical Engineer described as antithetical to good moods (April 23, 2015). But this path is also telling in its very path-ness. “It’s not a campus in the traditional sense, it’s really a network,” said one MIT Planning Professor (March 31, 2015). Many experts acknowledged this campus idiosyncrasy, and explained it as a rejection of the liberal arts through a rejection of the traditional quad-based campus. As various authors explain in the book *Becoming MIT: Moments of Decision*, Institute founder William Barton Rogers was intent on establishing “New Education” - capital N, capital E – emphasizing practical subjects and laboratory-based instruction – a radical notion at the close of the 19th Century. This new pedagogy would come to be reflected in a new physical layout.  

And yet as we get to a primary campus entrance, 77 Massachusetts Avenue, also called Building 7, there is an inescapable traditional sense of place and importance bolstered by neoclassical columns and a large dome. Users used the words ‘nobility’ and ‘majesty’ to describe how they felt about this entrance.

Users and experts agreed upon the symbolic purpose of this gateway, called Lobby 7 as you get inside. These architectural signifiers – the dome, the columns, the height – have everything to do with well-being as it relates to feeling oriented and belonging somewhere. Urbanist Kevin Lynch would call Lobby 7 a landmark – something singular –, one of five elements he identifies as necessary for imageability or ‘clarity’ of the built environment. He writes about why this legibility is important: “A good environmental image gives its possessor an important sense of emotional security. He can establish an harmonious relationship between himself and the outside world.”

As we’ll see, at an institution sometimes obsessed by physical efficiency, this entrance isn’t necessary for any function – and yet it would not be MIT without it. “The dome is the mind and the corridors are the hand,” said one MIT Planning Professor (March 31), referencing MIT’s motto, “Mens et Manus” or “Mind and Hand.” He elaborated: of the no-frills corridors he explained “[they say] we don’t need to waste our money and we just want utilitarian space but,” he said of Lobby 7, “we recognize that there’s a need to give it a sense of substance and direction... What you remember [are] the symbolic elements.”

INFINITE CORRIDOR

Speaking of corridors - the Infinite Corridor! The main artery of campus; aside from the domes, this is MIT in the visual imagination. Where those domes are ornamental and symbolic, the Infinite Corridor embodies the functional ethos of the school.

The analogy of MIT as a factory came up often in my interviews and reading – and this is no coincidence. The interior of the Main Complex – where we are now –, constructed between 1913 and 1916, was designed by William Bosworth according to Taylorism –

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8 Ibid., 3.
9 Ibid., 4.
principles for scientific management based on efficiency, like the division of labor and maximization of output. These hallways have been described as an architectural innovation for the flexibility they provide – double loaded corridors and non-structural partitions, for instance – and yet, there is an inescapable sense of industrial rigor, with each worker, scurrying away to their place on the assembly line for the day.

But the Infinite Corridor remains an important social space. As one freshman said, “I love Mondays, Wednesdays, and Fridays because I have to walk down the Infinite Corridor” (April 27, 2015). She explained this as a place of on-the-go hellos and a chance to run into classmates. Others concur – describing it as a place with tremendous energy, comparable to a Main Street – if, I would qualify it, Main Street had no sunlight, greenery, or engaging retail.

There is an important lesson here: people can help overcome spatial strictures, or, they’re at least half the equation. In a study of happiness in 10 major cities, the authors concluded that, “city residents appear to be happier when they feel connected to the people and to the places of their cities.” While the Infinite Corridor may feel rigid, this rigidity forces human connections. I asked many interviewees where they felt most connected to others on campus. Where most said their dorms or departmental spaces, the next most popular answer, and only school-wide space, was this corridor.

LOBBY 10

*Sigh* Lobby 10. Some light. A place to people watch, and always with activities going on.

This is quite a contrast to the Infinite, with its warmer colors and adorned surfaces. There’s a story behind these greens and creams and golds, one, according to an MIT Planner, that’s emblematic of the way MIT approaches its built environment – what is unsystematically (March 27). This lobby used to be just as flat white as the corridor we just emerged from, but as restorers were renovating the adjacent elevator bay, they discovered the original paint and gold leaf. A donor was found and the lobby was refurbished.

This is all well and good – we have a more welcoming space for it – except that this kind of piecemeal building and renovation has led to – here are those words again – an eclectic, hodgepodge campus. More importantly, it hints that change for the better comes from chance, and not necessarily administrative vision. Actually, it doesn’t just hint to

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12 Mental Health Professional.  
14 MIT Planner (March 27, 2015).
this: every expert I spoke to who was or had been associated with MIT acknowledged a lack of administrative appreciation of the importance of the built environment.

Where we’re off to next is the purported center of campus, and yet, you have to search for its entrance, “going against the grain of traffic” as a second-year Master’s student complained (April 16, 2015).

**KILLIAN COURT**

*Rueful* There are so many advantages to this place. Killian Court or the Great Court as it used to be known.

When it was created, along with the Main Complex, it was meant to foster prestige. MIT was, after all, the new kid, literally down the block from the oldest university in the country. Killian was the original entrance to campus, before busy Memorial Drive interfered, and you can understand why: it’s oriented towards the larger city system, with Boston just across the Charles River, and it’s huge – about 440 by 330 feet, or the size of two and a half football fields. It’s meant to indicate “We’re here to stay.”

When asked about the purpose of Killian, all experts immediately responded with some version of – ‘It’s ceremonial,’ – a role that still exists today – as you can see by the platforms being built for graduation. The problem with this assertion, as some of these experts elaborated on, is that this formality is only put to grand use a few days every year. Killian’s ceremony and positive attributes are directly contrasted with relative neglect and poor use.

On the positive side, there is: openness, greenery, views, and sunlight here. For some people, this is the place to relax and be with nature. For others, Killian and Boston are thankfully omnipresent from their offices, a visual respite from the white inside.

Despite these qualities, experts and users agree that it’s underperforming. On the negative end, few people want to come to Killian because it feels empty. The grass is degraded and generally looks forgotten. There are few places to sit comfortably, aside from some steps and climbable sculptures. One Facilities Employee bemoaned the fact that she used to sit here for lunch, until all of the benches were removed (April 23, 2015).

A disclaimer is probably important here: not every space has to be at maximum capacity at all times; a diversity of spatial experience is key to well-being. “People...have better mental health when they can control their surroundings,” wrote Dr. Gary Evans in the Journal of Urban Health.

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15 *Imagining MIT* 15-17.
16 MIT Planning Professor (March 30).
17 MIT Senior Administration Official (April 14, 2015).
18 Third Year PhD Student in Mechanical Engineering (April 23, 2015).
If this were just one of many similar spaces on campus that would be fine: it’s big, it’s beautiful, you can nap under a tree. Killian is failing because this is supposed to be our *best* space. It has the potential to be a vibrant center in the middle of what one PhD student deemed “the campus of clutter” (April 16, 2015). As one MIT Planning Professor put it, “It is not a forum. It has the location to be a forum” (March 30).

So, what could be here instead? Before you scream, ‘No! But it’s so calm here! Don’t add anything!’, I’d say that Killian is large enough – remember those two and half football fields? – to accommodate multiple functions, at different times of day. For example, New York City’s World Class Streets program doesn’t aim to banish cars, but to recognize that different days and times allow for varied activities, like weekend biking and pedestrian streets. With the addition of, say, moveable furniture, rotating food carts, and temporary student-driven activities and building, it has the potential to be the happiest space on campus because those changes would all foster a sense of ownership and social support.

Let me tell you a story to this effect. As I was interviewing two undergrads from the quirky East Campus dorm, they revealed both how fiercely opposed they were to any changes the administration made to campus and how much they liked collaborative aspects of space, like chalkboards (April 23, 2015). We then got into a conversation about moveable furniture, and their speech immediately sped up in excitement. One couldn’t wait to tell me about the beanbag fort he’d made during his internship at Facebook, while the other described dragging chairs around the main lawn of another campus in search of the perfect spot to study. They reconsidered their stance on campus change, stating that they’d be very happy with “customizability that brings ownership to space.”

Killian, in sum, presents an enormous opportunity to capitalize on a pre-existing but largely symbolic sense of place, to recreate the center as a multiuse node of relaxation and activity, one that showcases MIT’s culture of collaboration. And if you think beanbag chairs are frivolous, think again. As Dr. Evans expressed, a lack of control – for instance, exposure to unwanted noise, crowding, and atmosphere – causes learned helplessness in people.  

**BUILDING 4 CORRIDOR**

From big to small. This contrast, in some ways, embodies MIT’s campus – large, often emptyish open spaces versus nooks and crannies and random benches, like these. Where user opinions were mixed about whether or not they liked campus architecture and its layout, most users loved the fact that, often due to some haphazard building, there were moments of discovery that were available – places you had to seek out on your own. The benches we just passed may be a paltry example, but others do abound. As one

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21 “The Built Environment and Mental Health,” 544.
sophomore excitedly explained, "It feels like home at this point. You know where all the weird cupboards are in your own house" (April 23, 2015).

Seeking out and finding those spaces that only you know about lends a sense of control, something lacking in hallways, many of which look the same. As we saw in the Infinite Corridor, hallways are a hallmark of the Institute, a reflection of the ethos of work and industry done with little fanfare. Where in the Infinite Corridor, visual monotony is broken up by people running into each other, in most secondary arteries, it's a rabbit’s warren of windowless walls painted ‘MIT White’, an expression of efficiency taken to the extreme. This isn’t helped by the building classification system, where structures are numbered, but not named.

This can make navigation challenging, and that directly impacts a sense of personal control. Dr. Evans wrote about a study in college dorms, where “students in dorms with long corridor designs manifest multiple indices of helplessness in comparison to those living in suites.” When asked about their ability to navigate around campus, users mostly started their answer with a firm ‘Yes, I can get around easily.’ Yet after this response, about half backtracked, downgrading their assessment to the conditional, ‘I can get around if I use a map.’

That said, experts are split about whether these directional challenges are, in fact, challenges or instead, create moments of revelation. On the one hand, an MIT Planning Professor argued, “Like cities, there are always places to discover. That’s what makes a great city” (March 31). Many users found these moments in the basement tunnels, where you discover, as a PhD student in Philosophy put it, “all these little worlds” – filled with ‘weird signs’ like ‘Lasers in use!’, where “you can see how people use this space in interesting ways” (April 23, 2015).

On the other hand, a newer faculty member said, “I think that personal control can be knowing where you’re going and how to get there...But it’s challenging for personal control when thinking about wayfinding and navigating [this] campus.” The theory is on her side: in the book Making Healthy Places, edited by three urban planners with public health expertise, they explain “people are more likely to stay oriented – thus avoiding the anxiety and frustration of being lost – when a setting has distinct elements.”

INFINITE CORRIDOR, SECTION 2

This tension between discovery and navigation is somewhat resolved throughout this part of the Infinite Corridor, and all it takes is glass. Here, not only is the monotony broken

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22 MIT Planner (March 27).
23 “The Built Environment and Mental Health,” 544.
24 11 of 26 respondents to this question said some variation of ‘Sort of.’
26 Making Healthy Places, 114.
up, but you can uncover something new in these exposed labs without having to get lost
to find it.

Ironically enough, rumor has it MIT originally created the hallway-based circulation
system to foster collaboration and connection between disciplines. Some of this purpose
is fulfilled when people run into each other in the Infinite, but some of it isn’t:
collaboration only happens when you know what someone else is working on. This is
related to Jane Jacobs’ theory of ‘eyes on the street,’ not insofar as safety is concerned,
but in that you need to see your neighbors to get to know them.\(^{27}\) Erecting solid walls
robs many people of the opportunity to get a glimpse into what work is being done
outside of their department. These glass walls break that barrier, allowing conversations
and innovations to occur.\(^{28}\)

**BARS OF COLOR WITHIN SQUARES**

See what I mean about moments of surprise! Finally, we find some color here in Bars of
Color within Squares, an installation designed by conceptual artist, Sol Lewitt. This space
may be large, but every time you enter, it still feels like an unveiling.\(^{29}\) Users remarked
upon its natural light, quiet, and overlook onto greenery.

And yet this is not built for people. I’ll leave it to the words of one Community Wellness
employee: “It feels innovative, but it doesn’t always feel like it’s built for the human
body. So it feels very exciting and like a giant lab, but it doesn’t always feel somatically
intelligent” (April 28, 2015). She was talking about campus in general, but this statement
certainly applies to this room – beautiful, but not anatomically functional – with its hard
benches and hard floors. For a space that invites reflection, there is no comfortable place
to linger.

**BUILDING 6 CORRIDOR**

You’ll soon see some really interesting, contrasting moments along this path – of warmth
and cool, of welcoming and forbidding design. Of this hallway, one could say, as a
Planning PhD Student did, “The more you look, the more you realize how interesting it
is” (April 20, 2015). Or as an MIT Planning Professor put it, “Overall, [it’s] a functional
and monumental campus, but not a well-being oriented one. It’s a machine!” (March 30).

As we walk down this corridor, I want to take a moment to reflect upon why any of this is
important – the side-by-side comparisons we’ll see beg some consideration.

I’m reminded of the best argument any of my interviewees made. This MIT Planning
Professor said,

\(^{27}\) *Making Healthy Places*, 109.
\(^{28}\) Private Sector Campus Designer (April 10, 2015).
\(^{29}\) Mental Health Professional.
That’s the whole point of design, is well-being. Otherwise, why bother? If people are going to be less well from what you do, then you haven’t succeeded very well. [I ask what well-being in the physical environment means, and he responds] It’s physical comfort. It’s social interaction of the appropriate kind. It’s beauty... But well-being... you have to feel like the place is providing you with the support to optimize your own needs in your own way. Space can only do so much, it’s not the whole picture, but it’s equal in importance to any other variable you want to mention. I’m not saying it’s the most important. But people are looking for space to support them.

(March 31)

This is what’s at issue – design as a factor as important as any other variable when we think about mental health and well-being.

Think on that. How has this design made you feel?

HAYDEN LIBRARY COURTYARD

If design is treated not as extraneous, but as fundamental, it could help to improve mental health, something about which MIT could use some help.

We’re coming to a courtyard outside Hayden Library, named after Charles Hayden, an alumnus, banker, and apparent fan of run-on sentences. A quote of his is inscribed on a wall of the plaza, what reflects his philanthropic efforts focused on the “moral, mental, and physical well-being” of boys and young men.” Part of it reads,

“I am firmly convinced that the future of this nation, and of the world for that matter, depends in no small part upon the young men of the United States and that if they receive proper training in boyhood and youth through education, mental recreation, wholesome educational entertainment, and coordinated physical training, and more than all if in addition they be fostered and encouraged in the manner of right and proper living... we shall rear a nobler race of men.”

Despite forgetting about women and girls, this is a noble goal. But the irony of promoting ‘mental recreation’ and ‘right and proper living’ is not lost on anyone who’s looked closely at the culture of MIT. Take the school’s unofficial motto – IHTFP: I Hate This Fucking Place. As an MIT Planner with experience at Harvard explained, the attitude of students up the road is, “I went to Harvard, and I’m very proud of it.” Here, he contrasted, it’s “I survived MIT” (March 25, 2015).

A Mental Health Professional explained that yes, it is different here. As a non-liberal arts Institute, he says, the work done here is more difficult and complex, and attracts people who want to take on that challenge. He says that while students are unified against a

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common enemy – their relentless workloads –, they band together through “this culture of suffering, this culture of strenuous activity and some sense that, ‘If you’re overwhelmed, then I’m more overwhelmed than you.”’

There’s no question as to whether this is healthy or not, but it might be chalked up to a quirk if the school didn’t also experience the tragic side of this unhealthiness, with four suicides in the 2014-2015 academic year.

As we discussed in the hallway above, space is not going to fix this problem, but it can positively contribute to a sense of well-being. Connection with nature is a tried method of increasing mental calm. Here, we’re finally close to the Charles River, a scenic, if polluted, bedfellow. In some ways campus has a beautiful advantage, being so visually close to this body of water, and yet the majority of people don’t cross Memorial Drive, a mental and physical barrier, to use the riverfront. “Because of the damn road. You can’t access the river – you have to plan to access it,” said a frustrated Planning PhD Student (April 20, 2015). An Architecture Professor said, “We have this river but who would know” (March 27, 2015).

In sum, the river is an inefficient place to go. People want efficient places to relax, not far off their daily routes. One of the places users will go out of their way to get to are the libraries, like Hayden. Part of the reason is the views of nature – of the river, in this case – where they can use nature passively, if not actively. Explains Harvard biologist E.O. Wilson, “people want to be on a height looking down, they prefer open...terrain with scattered trees...and they want to be near a body of water...even if all these elements are purely aesthetic.” Practically speaking, this even passive use of nature “engage[s] our attention effortlessly, allowing us to be in such settings without focusing attention, thus restoring our capacity to pay attention.”

Other than the views, people said they’d venture further afield because of good natural light, tall ceilings, and serenity. One of the biggest findings of my interviews was that people have an intuitive sense of what’s good for them – chief among them being nature, calm, light, and air. You don’t need to read the theory, like I have, to understand what you like and what’s good for you.

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33 Harvard University Planner (April 21, 2015).
34 Ann Sussman and Justin Hollander, Cognitive Architecture: Designing for How We Respond to the Built Environment (New York: Routledge, 2015), 152.
35 Making Healthy Places, 110.
As such, one of the biggest complaints about MIT’s physical spaces is a lack of natural light – why students flock to the windows of Hayden to study. Multiple experts and users commented on MIT’s notorious lack of windows. On the bright side, one PhD student in Mechanical Engineering told me the story of how there were no windows in her lab, so she and her colleagues made a skylight by removing cinderblocks from the ceiling (April 23, 2015). That’s that culture of innovation working!

WALKER MEMORIAL LIBRARY ALLEY

Aside from more natural light, one of the biggest complaints users expressed was a lack of useable outdoor community space. Experts and users alike agreed that most open spaces felt like an afterthought – a trend we’ll see in this next part of our walk as we get closer to East Campus, the generally newer part that’s closer to the technology hub of Kendall Square. Recalling Killian, many felt there was no outdoor gathering spot, what was especially hard for grad students coming from other institutions, where their notion of ‘campus’ centered around being together on a lawn.36

Yes, this is not a campus like others. As the Mental Health Professional said, “People just kind of eat off the trucks,” by which he meant that people are unsentimental and accustomed to utilitarian spaces. Establishing a sense of well-being through the built environment is not about overturning that culture, but the recognition that small moments and actions can accomplish a lot.

Public art, for instance, accomplishes what urbanist Holly Whyte calls ‘triangulation,’ “some external stimulus [that] provides a linkage between people and prompts strangers to talk to each other as though they were not.”37 Take this sculpture, La Grande Voile or The Great Sail by Alexander Calder. Approaching this mass of black-painted steel, you’re immediately jolted out of your mundane walk, to instead experience a moment of exploration. Should you walk under it, around it, stand in the middle? If there were grass under this sculpture, it would be a perfect place to exercise personal control – to sit by and use the sculpture according to your own desires. Moreover, if you learn about the sculpture through MIT’s Public Art Walk program, you’d know that Calder, originally a mechanical engineer, built a smaller model over in the Wright Brothers Tunnel, and that there’s a time capsule buried underneath this one. This history and novelty create moments of delight, where one can feel more deeply connected to the Institute.38

Otherwise, we just have more pavement, *perhaps the outdoor equivalent of endless white corridors*

36 Third Year PhD Student in Mechanical Engineering.
McDERMOTT COURT TO GREEN PLAZA

“Understanding the natural environment with the built environment is...critical...Everyone should know this. There [are] very basic rules to how we design. But sometimes we don't do that because there [are] other functional things that we're thinking about pragmatically [so] that we don't celebrate that [health and design] as much.”

That sentiment, from a Private Sector Campus Designer, critically sums up how design and designers can unsuccessfully account for well-being – other priorities get in the way. Indeed, design is a reflection of prevailing priorities and values.

So what are the values *this* space is expressing?

Not aesthetics, because this is, frankly, ugly.

**These sad BLEEP trees. They’re my least favorite part of campus because they spend their whole lives dying**

I don’t think it’s about accommodating human bodies, because the proportions make no sense for this. This entire plaza from La Grande Voile to the doorway we’ll eventually go through is approximately 420 by 220 feet. Those measurements are beyond what the eye can command – about 330 by 330 feet. As architect Jan Gehl explained, “That is the distance where you can see other people and movements. But if it gets bigger, the eye can’t see what’s going on. Then you feel less comfortable.”

If anything it’s supposed to be about efficiency, as a Former MIT Planner explained, especially for the automobile (March 27, 2015). This is an entirely necessary purpose, because labs need to be serviced, except for such a big space, and a main artery of campus, it’s not that efficient if its sole purpose is to be big enough to let trucks in, some of the time.

If pragmatism is the principle value, and we’re sacrificing crucial things, like well-being, for efficiency, efficiency better be present. Instead, while focusing mostly on scientific efficiency, spaces have actually become somatically and even functionally inefficient.

Here, outside the Green Earth Sciences Building, a landmark on campus for its height, you trip over pavement while walking, you can’t sit on broken benches, and no one uses the bike rack that looks like a medieval torture device. Inside the building, a Planetary Sciences PhD told me, offices and labs are beside each other on multiple floors, instead of being split apart – one floor for labs, one floor for offices. This causes noise pollution for anyone at their office desk (April 16, 2015). Elsewhere, as another small but frustrating example, an Architecture Professor told me that doors open the wrong way, so guests exiting an office have the door swing in their faces. On the MIT Wiki, a prominent.

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39 Gary Hustwit, dir. Urbanized (Swiss Dots, 2011). Film.
physical component of campus is explained to new students: the tombs, “An enclosed, out-of-the-way space created when a new building is put next to an old one without fully coordinating the floor plans.”

It’s very unlikely that this inefficiency is deliberate; instead, it’s probably about CRISP or the Committee for the Review of Space Planning. As one of its duties, CRISP uses a matrix of priorities to allocate money for renovations, with building condition along the X-axis and funding needed on the Y. I spoke to an MIT Senior Administration Official about this matrix, and in explaining what often got funding he mentioned classrooms, dorms, and research space, but never anything in the campus public realm. As one Former MIT Planner put it, it does reveal a “level of insensitivity...All those things [designs] are expressions of values that people with operating responsibility have not been driven to understand...are important.”

Ironically, if one of MIT’s underlying cultural obsessions is with efficiency, a lack of well-being oriented space only detracts from that productivity. Not to mention displaying higher levels of aggression and depression, people who are thoroughly mentally taxed are less efficient than they otherwise could be. In order to be better serving students’ mental states and workloads, “the built environment [has to] have the capacity to alleviate mental fatigue and...restore a person’s capacity to pay attention.” The price of this bleakness is high.

Laurie Olin Landscape

In contrast, the landscape you’re about to see feels like what MIT could be, or could be doing more of. It’s not showy, but it’s quirky and interactive and has a purpose.

The ethos at MIT has nothing to do with putting on airs. Many interviewees made the direct comparison to Harvard, which they thought as off-putting and fancy in its redbrick historicism and elitism. MIT, on the other hand, is the opposite of the ivory tower, originally established as a more accessible institution, one that could elevate technical education and eliminate “loafing in academic groves,” as MIT President Francis Walker accused Harvard students of doing.

MIT’s architecture reflects this. Like its Cambridge surroundings, it’s a bit industrial and pragmatic, unconcerned with impressing anyone with its outward appearance. As Noam...
Chomsky put it: "Our motto is: Physically shabby, intellectually first class." If the outsides are lacking and a bit scruffy, the internal workings are fascinating.

That’s also expressed here, by landscape architect Laurie Olin. This basin features “chunky rip-rap walls, boulder fields, and plants of iris beds and willow trees.” More than this mix of industrialness and greenery, this landscape captures and filters storm water for irrigation and use in adjacent buildings. It’s utilitarian and beautiful at the same time, proving that both qualities of building can be simultaneously accomplished on this campus. Moreover, it’s site specific, creating a sense of place in an outdoor space, something that MIT largely lacks. As an Architecture Professor put it, in admiration of this landscape, “I believe that our public spaces can be very different from a traditional campus and still be great spaces. We shouldn’t try to be copying Harvard Yard.”

Like the buildings behind it, it’s also very linear, reflecting an inescapable campus characteristic discussed throughout – lines upon lines, corridors upon corridors. As the Architecture Professor said, “It's interesting. At MIT, you can get from one point to another point through tunnels and bridges in a very connected fabric of buildings. On the one hand, that’s functionally fantastic but I do think that being in spaces and places that are changing and have qualities is really important, and variety of those spaces is really important.”

This landscape, by contrast, does have qualities, and is the rare example of campus outdoor space that feels designed instead of just there.

**COMPTON COURT PARKING LOT**

*Oww*

Indeed, where interior connections are often better thought out, if overly blanched, exterior connective tissue – the job of planners – can be experienced as an afterthought. Many experts, even ones in MIT’s Office of Campus Planning, recognized this, describing a campus where buildings have been designed, but not the places around them. One MIT Planner described “a series of vignettes that are fabulous and interesting,” – like the Olin landscape – without being a cohesive campus. “They originally got that buildings have to work with open space. Some of that, history has forgotten” (March 25).

This parking lot is a good example of that lack of cohesion. It’s a primary entrance on the west side of the Ray and Maria Stata Center, where we’ll go next, and yet, where people will enter this building and not cars, it is not designed for the pedestrian, not to mention entirely safe for the adjacent playground. The Architecture Professor admitted that this inability to organize connective tissue resulted from “architectural building,” or architects being given freer reign. “We need to be thinking about the campus plan,” she said, and not only buildings in isolation.

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Research backs up this assertion; it seems the last master plan was created in 1960, with a revision in 1975.\textsuperscript{48} When Olin Partnership was commissioned to do "A Framework for Campus Development," they wrote about this lack of connective tissue and its import: "MIT is suffering what might now be called a crisis of landscape." "Landscape is the commonwealth of space that has the potential to knit together elements as diverse as the Stata Center and the Bosworth buildings."\textsuperscript{49}

RAY AND MARIA STATA CENTER

Speaking of 'architectural building,' here we are at the Stata Center, built by Frank Gehry in 2004. This building has one of the most divisive designs on campus - beloved by some for its unorthodoxy and loathed by others for the same reason. Indeed, some absolutely hate the odd angles and ragged edges of this space.\textsuperscript{50} But for many others, it's one of the few examples of well-being oriented architecture, and might point to an improved administrative understanding of spatial consequences.

As William Mitchell explains in \textit{Imagining MIT: Designing a Campus for the Twenty-First Century}, Stata was originally conceived "as a straightforward lab and faculty office building, but the realization that MIT needed to pay more attention to social space began to take hold."\textsuperscript{51} We’re currently in the Student Street, designed as a multiuse space to echo "the Infinite...[except] it has spaces for students to stop...[and] sell their fellow students ideas," explained Gehry.\textsuperscript{52} Users explained of this area: "I feel happy and comfortable here because of the sunshine." "The colors make me feel better." "There’s lot of space, air, and light [here]."\textsuperscript{53}

While those crucial qualities of light, air, and color are evident here in spades, the Student Street is also remarkable for its opportunity to customize. First of all, there are multiple types of seating, allowing for control of experience – to sit somewhere exposed and people watch, or to hide away and study. This corridor is also covered in chalkboards, inviting students to decorate this space in any way they see fit. Users loved seeing various message on these boards because, as a sophomore in Physics put it, "it feels like there are people here, and they spend some of their life doing a thing, and you too can be part of it. MIT is such a large place, leaving even small notes and putting your mark on things is great" (April 23, 2015).


\textsuperscript{49} \textit{MIT: A Framework for Campus Development}, 31.

\textsuperscript{50} Mental Health Professional.

\textsuperscript{51} \textit{Imagining MIT}, 62.

\textsuperscript{52} \textit{Imagining MIT}, 79.

Considering campus as a whole, and excluding their dorm rooms, users didn’t feel as if they could transform their spaces on campus, but these chalk boards, at least, let them feel participatory.\textsuperscript{54}

NORTH COURT

If Stata is a step in the right direction in terms of making space more happy inducing, North Court, the adjacent green space finished in 2011, also provokes optimism. Aside from Killian, it’s one of the larger green spaces on campus, and includes a large public art sculpture, a network of paths that lead to neighboring Main Street, and a large, sectioned lawn.

Like Stata next door, it works well for the various seating it provides. In his study of small public spaces in New York City, Holly Whyte came to the conclusion that “the most popular plazas tend to have considerably more sitting space” than do emptier ones.\textsuperscript{55} It’s not only about sufficient seating, but its variety. “It’s important...that it be socially comfortable,” he wrote. “This means choice: sitting up front, in back, to the side, in the sun, in the shade, in groups, off alone.”\textsuperscript{56} North Court does exactly this, with shaded lunch tables, atrium seating, long backless benches in the sun, and sculpture to rest against.

Users and experts alike cited North Court as a success, as a place where they felt happy.\textsuperscript{57} Given the greenness and openness, this finding is no surprise. What was curious about responses regarding North Court, what were indicative of a broader finding, is that most users had very little language with which to explain what made them happy. For example, they would say they loved North Court but often couldn’t really describe why beyond ‘It’s green.’ In the words of one freshman, “I have no words to describe it. I’m not an architect” (April 14, 2015).

This gets back to something we spoke about at Hayden – that people have an intuitive sense of what works and what doesn’t, without being able to take the next step to describe why. Environmental psychology texts explain this intuition as stemming from our old, or prehistoric, brains. As Justin Hollander and Ann Sussman describe in \textit{Cognitive Architecture: Designing for How We Respond to the Built Environment}, “Our evolutionary past resonates daily with how we respond to our present environment.” Quoting biologist Wilson, they explain humans’ biophilia or “the urge to affiliate with other forms of life,” including greenery.\textsuperscript{58}

Part of creating well-being in space then involves listening to what people want, the subtext of this being that their intuitive sense is usually right.\textsuperscript{59} As one Harvard

\textsuperscript{54} PhD Student in Philosophy (April 23, 2015).
\textsuperscript{55} \textit{The Social Life of Small Urban Spaces}, 27.
\textsuperscript{56} \textit{The Social Life of Small Urban Spaces}, 28.
\textsuperscript{57} PhD Student in Computer Science (April 16, 2015). MIT Planner (March 27).
\textsuperscript{58} \textit{Cognitive Architecture}, 150-151.
\textsuperscript{59} Harvard University Planner.
University Planner described, “People talk about light. People talk about sitting...People talk about flexibility...People talk about wooden ceilings and nature for interior spaces.” In this sense, not only is collaboration an end goal of well-being oriented spaces, but it should be the starting point as well. Collaboration should be a process and a result, what fundamentally gives people a sense of ownership over their environments.

ACROSS AMES STREET

If North Court and Stata felt more human, this exit towards East Campus certainly doesn’t. According to a Former MIT Planner, this and a similar exit close by were created by someone who was formerly employed with the State Police.

Similar to the status quo outside the Green Building, it’s highly unlikely that this exit was built to spite the pedestrian. Instead, it was probably built with little attention to design, and a mandate for safety and traffic control. The problem is that this exit and the other one nearby lie on the primary east-west campus axis. That means that if you’re moving directly from the main buildings along Mass. Ave. across to East Campus, you’ll likely walk through an exit not built for you.

*And look, that Mini Cooper almost backed into me*

Talking to experts, coupled with my reading MIT’s campus design as an expression of priorities and values, leads me to the conclusion that the issue here is: the lack of spatial language that exists among users also exists among the MIT administration. If the language doesn’t exist, it’s likely the concept doesn’t either. Allow me an anecdote by way of explanation: in the early 20th Century, there was no word in the Russian language for ‘privacy,’ what made creating a communal society easier, where nothing private was lost if it never existed.60

At MIT, there appears to exist a fundamental lack of understanding about the role and import of a well-designed built environment, where so-called ‘quality of life’ deserves money and attention, not only to serve the current population, but also to attract the best prospects.

In describing plans for a design overhaul of the Northeastern University campus, a planner there recounted measuring the success of new designs by an increased application rate and by the quality of students the school started to attract.61 As an MIT Planning Professor said of the students, “Isn’t that the fundamental asset of our school?” (March 31). In the same capacity, college rankings like US News and World Report and the

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61 Northeastern University Planner (April 7, 2015). Private Sector Campus Designer also expressed similar metric about how she judges the success of her designs.
Princeton Review, have begun putting more weight on ranking quality of life, including how happy the students are. MIT, as it turns out, doesn't rank very well.62

That’s all to say, spatial improvements towards well-being serve not only a healthy purpose, but a competitive one. Of course it would cost some money, but as one Former MIT Planner put it, “What is really costly is the imagination.”

HEALTH SERVICES PLAZA AND BUILDING

The point also seems to be that improvements do not necessarily mean building much more. Take this relatively empty plaza. Tellingly, it has no name, according to the interactive campus map.63 There are islands of green here, not to mention some comfortable benches and interesting sculpture. Yet, to walk through it still feels long and boring and directionless, even though you're clearly walking towards a destination ahead. It’s probably because it’s 500 feet wide and is comprised of different, smaller spaces, each at different levels, that don’t relate to one another.

In addition to promoting well-being, large scale design usually attempts to create a narrative, what is not evident here.64 For those I interviewed from either the private sector or other Boston-area schools, planners easily described their campuses as cohesive wholes, as narratives ebbing and flowing from west to east, or north to south, or from the center towards the periphery.

At MIT, that narrative does fall apart. The only one possibly evident here is that the middle is old and the edges more modern. An Architecture Professor described MIT’s spatial philosophy: “A campus that builds of its time, at the moment. We have some amazing treasures because of that - like the Saarinen chapel...And then we have some other buildings that don't necessarily cohere.”

A Northeastern University Planner assured me though, that narratives are not formed through buildings, but through the quality of open space and the navigability of the connective tissue. “I focus on spaces between buildings,” she said. Where this, these spaces around buildings, are MIT’s weak spot, there is also promise here. Experts were unified on the fact that creating better places does not involve building more, but in “looking for what you already have.”65 As a Private Sector Campus Designer put it, “Everybody feels like they need more space – more class rooms, for example. They think they need to grow, but it’s really about how they use the space they have.”

64 Cognitive Architecture, 133-149.
65 Harvard University Planner.
As a Harvard University Planner suggested, this is easier for universities than for most other institutions because they have so many things that already exist—namely, a rich culture and community, like student groups, that you need only bring out from behind cement walls. Like Killian, this unnamed plaza if rife with possibility if someone would let the students experiment. “But,” as an MIT Planning Professor cautioned, “it can’t all be flexible, because then it would be a disaster” (March 31). Otherwise, the Harvard Planner explained, people don’t necessarily want more to do. They simply want better places to relax and easier accessibility to amenities and food.

*Pause*

This is perhaps the most spectacular failure of narrative—it’s through these doors, an MIT Planner told me, that a third of campus enters and exits everyday, and yet nothing about this looks like such an important space (March 25). There isn’t even a prominent sign telling you that you’re at MIT, and after the early evening, this entrance is only accessible by keycard.

**CARLETON STREET**

But this is also where MIT might start to learn from past mistakes. Because everything you see here along Carleton Street should be undergoing redevelopment according to MIT 2030, a 15-year framework to guide future academic, research, and innovation needs. This part of MIT 2030, called the East Campus/Kendall Gateway, aims to create a mixed-use, 24/7 area in what is now a part of campus that putters out into a few stores open only during the day. The proposal would see the MIT Museum relocate here, along with the addition of grad student and mixed-income housing, as well as vaguer developments, like “space for new innovative academic initiatives.”

From speaking to various experts involved in the planning of the East Campus/Kendall Gateway, collaboration seems to be the watchword. An MIT Senior Administration Official recounted forums he attended where students expressed their frustration with an inability to adapt most current spaces to their needs through elements like the chalkboards, white boards, and moveable furniture mentioned earlier. Of what they wanted from the new development, the Official explained, they asked for complimentary services to working: “A place to gather. A place to get food. A place that if they want to meet with folks at the spur of the moment [they can]...Network connections are important. Others are this sandbox that they talk about, which [means] making things.” He elaborated that he saw design as “how do we reduce frustration,” and when I asked him how he thinks about well-being in the built environment, he responded with, “collaborative space which allows you to build and which allows you to learn using some of the future technologies, and then what I call the ancillary services [food, for example]...and try to do it in the least restrictive of ways.” It seems as if personal control

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make might a strong campus appearance soon, what’s already hinted at by Stata and North Court.

On a more symbolic scale, the East Campus redevelopment presents the opportunity for MIT to refocus its design priorities. Where the original purpose of Killian Court, the “spiritual entrance,” was to declare, ‘We’re here to stay,’ now it’s rather fallow. This new gateway, located right beside an innovation district in Kendall Square, needs to make a statement about the future, according to one MIT Planning Professor. “I think we should leave our own stamp… We should consciously create a gateway for people and if we can do it as brilliantly as it was done [then], then we will have succeeded. That gateway has lasted for 100 years. It is still impressive. It’s still used … But we need to do it in our own way” (March 31).

MEDIA LAB

Finally, if the future is already embodied anywhere at MIT, it’s here at the Media Lab. You can tell just in this lobby – to left is delicate, 3D-printed glass, up there are transfemoral powered prostheses, and to the right is the Center for Advanced Urbanism, an interdisciplinary design studio— things, interactive things, new things are made here.

People love this building, and it’s important to them. It’s important to people as an embodiment of innovation, where intellectual contributions are made that reimagine the everyday, like the driverless car. It’s also important for its aesthetics: for the building’s light, air, views of Boston and campus, and for the greenery that grows in the vertical City Farm inside – so many of the well-being elements that we’ve been looking at thus far. The Media Lab also has a number of seating areas, to work in and to play, areas that are usually packed. Jan Gehl said of the success of a space, that you shouldn’t look at how many people pass through it, but should notice, “how many have stopped walking to stay and enjoy what is there.”

Exactly. Of course this is a thesis about space, but it’s more about how that space works for the people who have to use it.

I want to end on that note, because of what we’ll see in a moment. With all this talk about buildings, it’s really about people. In that sense, there seems to be one kind of place that serves the people best: undergraduate dorms.

All of the conditions for well-being that I’ve been describing seem to exist in the dorms; over and over again, they topped the list for undergrads when asked about where they feel most in control, socially connected, and relaxed. This isn’t surprising, as MIT dorm life is an unusually student-driven system, akin to a fraternity rush process, where students select a list of dorms they want to live, and the dorm leadership selects the students they want to join. The result is that most students find their tribe. “I could not do it [MIT]

68 MIT Planning Professor (March 31).
70 Urbanized.
without the community,” said a sophomore in Electrical Engineering (April 23, 2015). In these homes, they can “walk into any space and strike up a conversation with anyone.”

There are oral and ceremonial traditions in many buildings, where alumni come back and pass down stories. The dorms are also radically flexible spaces, much more so than just mounting a poster on a wall. Students paint and build and customize to the max.

As an Architecture Professor said, the best case of personal control she’d ever seen on campus was a project by one of the dorms:

“[The] best case I’ve ever seen at MIT – and it only happens once a year – is the transformation that they do by Senior House, where they [made a] roller coaster, and really radically transformed that space for the first two weeks of school. It’s fantastic. It’s temporary. It’s engaged. And they built it together. I love that. Maybe we can’t control too much in our environments, but I think those temporary projects are a great way to [get at that].”

This sense of control – on campus – is not to be underestimated. Perhaps it’s even more important at MIT because the workload can feel untamable, but also because this is a school of hackers. The attitude here is ‘just go out and do it, change it.’ What are you doing? What are you contributing? The ownership you take over your studies and your environment is everything.

So while there will always be some kind of suffering culture, its companion is the innovative, driven-by-a-need-to-take-ownership, collaborative, communal philosophy. Aside from including some mental restoration, that second culture largely aligns with the principles of creating well-being through space. To improve the happiness quotient of campus, much of what we need to do is build in a way that allows MIT to become more itself.

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71 Senior in Physics (April 23, 2015).
72 Ibid.
73 Mens et Mania.
FOUR.

BIBLIOGRAPHY
for both the paper and the script


