2015 UIA-PHG+GUPHA: Annual Conference, Dalian, China
*Health for All: Cultural, Populational, Operational, and Technological Influences*

# DESIGNING FOR HEALTH:
# Teaching the Social Art of Architecture

Benjamin Clavan, Ph.D., AIA
Coordinator, Berkeley Undergraduate Prize for Architectural Design Excellence
Benjamic@earthlink.net; info@BerkeleyPrize.org

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## ABSTRACT

It is clear that healthful architecture starts with a deep and empathetic understanding of the people who will use a building or place. The goal of such an understanding is rarely part of contemporary architectural school curricula. For 17 years, an online competition, the international Berkeley Undergraduate Prize for Architectural Design Excellence (the PRIZE), has worked to change this deficiency by directly challenging architecture students to go into their local communities for the purposes of thinking and writing about the meaning of an architecture that originates from this broader perspective. Nearly 1900 students from 62 countries have participated in the PRIZE's Essay and Travel Fellowship competitions.

In 2014, the PRIZE topic was, "The Architect and the Healthful Environment." There were four student Essay winners responding to the competition question: How do you Design a Healthful Environment? Simultaneously, the PRIZE launched its second Teaching Fellowship in the *Social Art of Architecture,* reflecting the year's competition topic. Three undergraduate studio faculty from around the world were selected to integrate the ideals of human-centered ideals and values into their current course syllabi with a focus on healthful architecture. Their work is on-going.

Based on the history of the PRIZE; the results of 2014 Essay competition; and the collective analysis of the results of all of the Teaching Fellowships, the author investigates the problems and potentials of shifting the focus of architectural education to people-driven design. In doing so, the idea that new approaches need to be adopted in order to learn, teach and design healthful architecture is examined. A basis for the adoption of these approaches is proposed.



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## INTRODUCTION

> *Someone realized that the health of the city people has to be achieved with the health of the city. And thus with the resurrection of a canal in the city's heart, a happy healthy story began. This initiative is part of a utopia of connecting all the dying water channels of Dhaka reviving the hydro-logical balance of this liquid landscape. The name of the project is 'Hatirjheel' which means 'lake of elephants'. History claims that before Dhaka was soaked dry, the elephants of the royal family had bathed here which resulted in this nomenclature.*
>
> *Public health has not been the primary concern of the Hatirjheel. Yet it is the enthusiasm of people that completes this partially complete design. The implication of the basic idea – sun, water, flora and fauna attracts health conscious people here. Health is not confined in physical health only. The same slums dwellers who used to live by the fetid water have painted some of their houses in bright blue and pink. It shows a recovering mental health.*
>
> *The spirited youth, the enthusiast photographers all gather here because of the mental uplift. Everyday all the people who pass by the lake in speedy vehicles or walk by it, feel their umbilical connection to the water. The nostalgia of the river by their village calms them. Sound of rain on water brings monsoon in the city. The therapeutic design for the city heals the citizen too.*
>
> (From the 2014 PRIZE First Place Essay, *"Livability vs. Lovability"* by Tazrin Islam, Bangladesh University of Engineering and Technology, Dhaka.)

Healthful architecture is about creating healthy, productive and emotionally-satisfying communities for the people who reside there.

Healthful architecture is about creating healthy, productive, and emotionally-satisfying personal environments.

And yes, healthful architecture is about creating the best possible healthcare facilities not only for the benefit of the patients, but for the vast array of people who constitute today's healthcare infrastructure.

Healthful architecture is at heart about creating places where people flourish in whatever the context or situation.

Teaching and learning about people-centered architecture is critical for the making of such environments. Yet seldom is this *social art of architecture* used as a benchmark against which to evaluate the quality of buildings and places. Part of the problem is how to interest young architecture students and their faculty in exploring these issues for themselves, in the field, directly interacting with the users of the buildings they propose to design.

This paper explores what can and should be done to make the human-centered ideals of the *social art of architecture* the primary focus of architectural education in the coming years. It is no coincidence that this is also the starting point for the creation of *healthful* architecture.



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It is important to stress that teaching and learning about the *social art of architecture* does not end with architecture students, but could and should be extended to healthcare policy makers, medical planners, program and project managers, and staff. The questions and analytical methods explored in this project can and should be applied universally in healthcare environments to boost not only the wellness of the patients, but to enhance the lives of all the people involved in the healthcare delivery system.

**Context**

There is now a half-century of ground-breaking studies of the sociology of architecture by such figures as MacKinnon, Blau, Larson, Gutman, Ghirado, Cuff, Crawford, Jenkins, etc. All of these researchers have attempted in one way or another to apply the lessons of the social sciences to the development of (an) architectural theory. This energy has, so far, not resulted in any new lasting architectural pedagogy.

Part of the problem has been that, however committed to the goals of social justice and public health, architects and architecture schools do not know what to do with seemingly extraneous theoretical, experimental, and/or practical social and behavioral information bubbling up, or more succinctly lying fallow, around them. Accepting the tenants of what is now called "evidence-based design" is one thing; qualifying that evidence and applying it to architectural design is another.

This actual *how* (not to mention the ever-present, *why*) of applying the findings and lessons of the social sciences to the teaching of architecture remains largely unanswered. There are signs that it is beginning to be addressed in a more systematic way.[1] Whatever the results of these efforts, the over-riding objective must be to discover ways to discharge the false dualism that has emerged in architecture between social concerns and creative design, and between people-driven design and object-driven design.

The international Berkeley Undergraduate Prize in Architectural Design Excellence (the PRIZE) strives to show architects-in-training and their teachers that the smallest act of building has global implications: that design can and does play a major role in the social, cultural, and psychological life of both the individual and society at large. As such, it directly impacts the health and well-being of each inhabitant and their community. It is not design *or* health, but both working to enhance the other.



[1] In March of this year, a major initiative in the United States by the fraternal professional organization, the American Institute of Architects (AIA), and the Association of Collegiate Schools of Architecture (ACSA) called the "AIA Design & Health Research Consortium," was introduced at an inaugural conference. The Consortium looks to utilize the resources of some of the top schools of architecture and public health in the country to advance, "revolutionary, university-led research in the area of design and health." (See, Schneidawind, J. 2015).

There are 11 inaugural members of the Consortium, including 2013 BERKELEY PRIZE Teaching Fellow Eve Edelstein's current home, the NewSchool of Architecture and Design in San Diego, U.S.A. Edelstein has, in addition, organized and become Director of a major cross-disciplinary research and development laboratory, the Design + Health Research Collaboratory, for the purposes of investigating and providing real-time solutions for health and design issues as a hands-on offshoot of the AIA effort. The potential for these initiatives to influence educational programs in the United States and internationally is real and substantial.

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## Learning and Writing about Healthful Architecture

> *…healthful design is multidimensional but by no means unattainable. I discovered through a comparison of the Halifax Seaport Farmers' Market and Dalhousie University's Killam Memorial Library, that the key to environmental health include: cooperation between architects, clients, and user-groups; a holistic approach to design that considers environmental, physiological, and social environments; and the thoughtful renovation of previously designed buildings.*
>
> *While a wider study would likely uncover far more nuance in the design of healthful environments, the present comparison is, for me, a starting point. I have become more aware of the considerations behind healthful design, and more perceptive of architectural responses to these considerations in my city. I have come to realize the influence that architecture - and architects - have on the health of built environments, and my own responsibility to design towards a more healthful city.*
>
> (From one of the two, 2014 BERKELEY PRIZE Third Place Essays, *"Healthful Halifax: Designing Healthful Spaces, Learning by Example"*; by Michael Philpott**,** Dalhousie University, Halifax, Canada.)

The format for the PRIZE competition, founded in 1998 by Raymond Lifchez, Professor of Architecture and City and Regional Planning at the University of California, Berkeley (Berkeley, U.S.A.), is straightforward. Each year we select a topic integral to the *social art of architecture* and pose a question, really a prompt, to which the students respond online at www.BerkeleyPrize.org .

From the first topic, "The Architect Meets the Nursing Home" to this year's, "The Architect Confronts Poverty," we have strived to encourage these young architects to go out into their communities and explore the world in which they live in light of the topic and question.[2] A substantial cash award is given for the best essays on the subject.

It is often a baffling task for the student, made all the more difficult by most schools of architectures' reluctance to see – and teach – social purpose as a subject that is at least as important and integral concern as the design of the building form and facade. For 2014, we asked the question:

***HOW DO YOU DESIGN A HEALTHFUL ENVIRONMENT?***

**In your city, find a building or a public place that helps create a healthful environment. Describe the features of the healthful environment that you admire and why. Tell us what you believe the architect did specifically to make the healthful environment work as it does.**

**Then, find a building or a public place that offers an unhealthful environment. Describe the features of the unhealthful environment that you do not admire and why. As an architect, describe specifically what you would have done differently, including working with what governmental and civic resources to improve the situation.**

**Tell us what you have learned by this comparative analysis.**



[2] See Appendices "A"-"C" for a description of how the PRIZE works, and the participants and results of the 2014 PRIZE Essay competition.

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The comparisons we received were far-ranging, from a Singapore Bachelor of Architecture Studies student at the Unitec Institute of Technology in Auckland, New Zealand who offered, "Healthful Environments: Architecture and The Human Experience; to a Chinese-native, Bachelor of Architecture student at the University of Notre Dame School of Architecture, U.S.A. who studied, "Residential Design and Physical Health: A Comparison of Two Communities in Beijing, China"; to the two winning students from Bangladesh and Canada who have been quoted above. What all had in common was both their eagerness to address the issue, but also the realization that the subject and how they gathered information was hugely different from the normal classroom and studio experiences.

*Fig. 1: From the 2014 PRIZE Second Place Winners, "Spaces to Grow in – A Comparative Study of Two Orphanages," by Nipun Prabhakar and Gupta Sukruti, School of Planning and Architecture, Bhopal, India.*

Some random comments by the reviewers substantiate this excitement:

- *I feel enlightened from reading your essay. The comparison is extremely well visualized. You chose buildings you know then explored them more fully.*

- *This is a sensitive and probing essay addressing how distinctly opposed two college spaces can be regarding basic human health and more subtle psychological well-being. I appreciate how you have engaged with people--more in discussion at the museum and as a seemingly more formal interview at the motel dorm. Just this distinction of discussion versus interview tells lots about the different dynamics of each space.*

- *This essay has some marvelously poetic concepts (health as the "fruit of a well-lived life"), and is a powerful and nicely unfolding revelation, full of vivid examples. The two urban spaces compared are the grand bazaar as the heart of the social city and the street as a conduit only for the car, and the proposal is to give the streets back to the people.*

- *The street as public space, and the act of moving through cities is a fascinating place to commence discussions around healthful cities.*

- *The way you captured how the (buildings) affect the health of the community is absolutely essential to architecture's role in the public space.*

The idea is sound and the history is there: good architecture starts with an understanding of the people who will use a building or a place. If you do not understand how architecture can



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contribute or be detrimental to the mental and physical health of its users, no medical or health services building will answer the needs of its clients adequately. Somehow, these seemingly basic concepts must be integrated both into the traditional architectural curriculum and into mainstream thinking about healthcare architecture.

**Teaching Healthful Architecture**

*I have made a decision to create a fairy tale for old people wanting them to experience - one more time - the gratuitous joy and innocence only a child could feel. A location for the fairy tale would be where all fairy tales take place - in a land far, far away, outside the framework of reality - above their (apartment) Block 28. Since at* Televizorke *two long buildings are the main characteristics of the block, they have to disappear, so the fairy tale could happen on their roofs which represent two extremes, two opposites that (reflect) each other and (together) make a balance.*

*Fig. 2: Entry from student blog, 2014 PRIZE Teaching Fellow's class.*
*Student: Milica Stojanovic, University of Belgrade.*

The primary goal of the BERKELEY PRIZE Teaching Fellowship is to support innovative thinking by architecture faculty as they work to focus their students' attention on the social, behavioral, and physical characteristics of the *users* of the buildings and spaces they design. This is simultaneously a curriculum-development project and a teaching-development project. One major element is to actually implement/teach a specifically designed syllabus.

The second Teaching Fellowship coincided with and was tied to the 2014 PRIZE topic of the "Architect and the Healthful Environment." The three selected Fellows were: Guari Bharat from India; Dr. Ružica Božović-Stamenović from Serbia and Singapore; and Dr. Joseph Wong from Hong Kong.[3] Elaine Ostroff, Hon. AIA, who developed and has worked to popularize the term "user/expert" (Ostroff, E. 1997), coordinated the work of the Fellows for the PRIZE.



[3]See Appendix "D" for the Fellows' full university affiliations.

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The Fellows agree on a variety of core principles:

- Healthful architecture encompasses both physical and mental health;
- Healthful architecture is a reiterative process that must start and end with the input and acceptance of the user/experts; and
- The teaching of healthful architecture requires a sensitization of the student's mindset to fully understand the complexity of issues that must be addressed for a successful design.

Within this community of agreement is a great range of perspectives, all of which are informed by the special context in which the Fellows' courses were taught.

(Guari Bharat)

Bharat led her 2nd and 3rd year students in the design of a public library with both a strong emphasis on the requirements and demands of different user groups, and an equally strong requirement for the library to clearly demonstrate its contribution to the public health of the community. More specifically, she focused on having her students develop a program and select a site by utilizing the input of users/experts as the basis for creating the physical design. Some of the key tasks in the studio were:

1. **Observing and understanding people's behavior in public places in order to select the site, develop a program and develop design concepts.**

   Two specific observations and documentation tasks were assigned – first, the mapping of density of people and the physical elements that provided anchors for people in public places, and second, sizes of gathering and the surroundings that encouraged such behavior. This became the basis for identifying sites that had the potential to develop into public places.

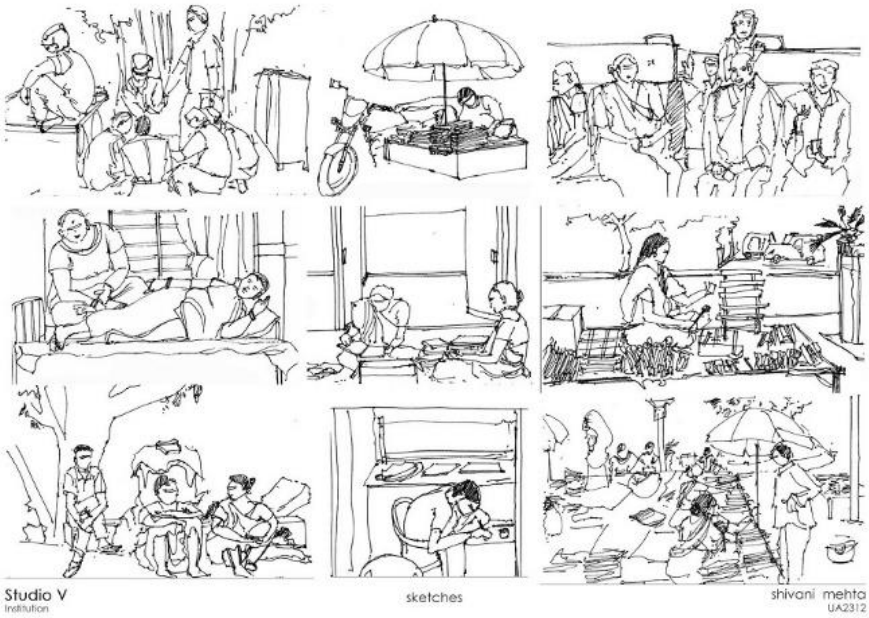


*Fig. 3: Observing and sketching people in public places.*
*Student: Shivani Meht*



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2. **Identifying site, program and user/experts.**

   Students were continuously involved in discussions about where the library could be located such that it could become a potential public place. The involvement of students in the understanding and selection of sites was an important departure from previous studios where students are typically given a site, and encouraged students to think critically about the situating and making of public places.

3. **Developing an architecture brief through in terms of users' requirements.**

   Unlike typical studios where students are given a specific design brief with an area statement that specifies sizes of spaces to be designed, students in this studio were encouraged to develop a design brief by observing libraries where the sites was located. These exercises served two purposes. First, students were beginning to think of their designs in terms of the workings of a library rather than as forms or volumes, and second, students were considering dimensions in terms of users' requirements rather than in terms of abstract, pre-determined sizes.


*Fig. 4: Study of existing library in Ahmedabad.*
*Student: Viral Lalwani*

4. **Concepts, as if users mattered.**

   Unlike concept models that are typically made on the basis of massing or volumes that will make up the buildings, in this studio, students made concept models on the basis of different levels of access within the library. This exercise of developing concepts in terms of relationships was one of the most important lessons of the studio given that it clearly shift the emphasis of design from visual forms to users and their relationships to each other and their environments.



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5. **Exploring sense of place by inhabiting one's own design.**

A key challenge for the students attempting people-centric design was to integrate inputs from user/experts and observations of people and places into their own designs. One of the ways in which the studio attempted to deal with this challenge was to encourage students to 'inhabit' their own designs in order to evoke its sense of place. This was done in two ways. First, students were encouraged to orally describe their design in terms of how different users may move through the place. Second, in the later stages of design, students were required to make large scale drawings including people, furniture and activities as they imagined taking place within their proposed buildings. These two methods were intended to help the students think about their designs from inside out i.e. as places to be inhabited by people rather than as forms or elevations to be seen.

*Fig. 5: Collage, imagining the library as a public place.*
*Student: Surabhi Khanderia*

(Dr. Ružica Božović-Stamenović)

If architects are to be the major mediators of a new, integrative design process, then the question is how to teach them to become sensitive, relevant, reliable and accountable in the field of the *social art of architecture*. The change begins with changing the students' perspective on the issues, the users, and the needed dialogue between all those involved in the design process, It also requires changing their own attitudes, views, and sensitivity to social issues in general. In other words, the need is to energize students at an early point in their education to give *a priori* attention to responses to the social and behavioral factors that will create healthful architecture.

In her Fellowship year, Božović-Stamenović explores specific methods and experiences, based on the work of two design studios located on opposite sides of the globe in Serbia and



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Singapore. The juxtaposition of these two venues provides clues as to what is universal about teaching the *social art of architecture* and what, perhaps, is not. Her initial results of the two semester's comparison shows:

- Students' reaction to the same methodology indicates differences triggered by and based on cultural context, social expectations and common behavior.
- The similarity is evident on higher levels of perception and cognition where basic human needs are addressed and managed: safety, empathy, and social support.
- Student's ability to recognize and deal with users' needs and expectations is closely dependent on their own sensitivity and ability to exceed strictly professional codes of conduct and insert different modes of design thinking. The difference in this respect between the two groups of students was extremely high, reflecting different attitudes regarding power, empowerment, rules, and self-initiative in the two countries.

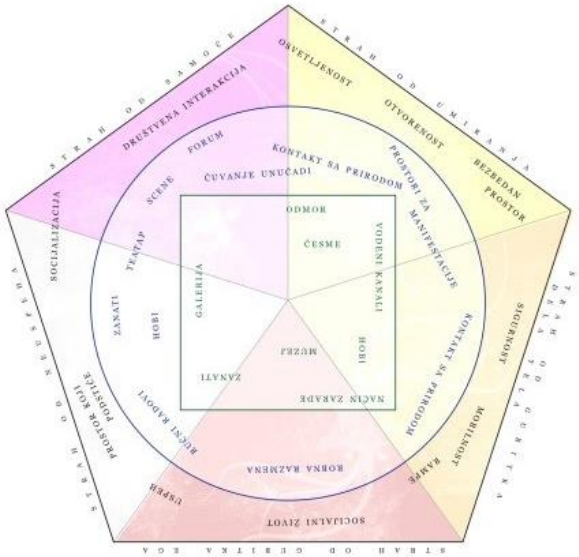


*Fig. 6: Diagram of influences on users (in Serbian) showing students' awareness of the complexity of issues.*
*Student: Milos Mitrovic*

Božović-Stamenović posits that healthful architecture is an intersection point of social ("1"), technical ("2"), and design ("3") issues. The investigation of specific parts of this triad is important, however, the healthful effects of design rely on the harmonious coordination of the three parts throughout the entire design process. The mediators in this process should be the architects. Still, in practice it is very common to see a different sequence: "3,2,1" with architects' engagement being focused primarily on design issues and technical properties while turning attention to social aspects comes only much later (if it comes at all), in post-occupancy evaluation exercises.

Teaching exercises centered on raising awareness in students by putting them physically in the situation that mimics the everyday problems of people with disabilities and the elderly. This includes maneuvering through the city in a wheelchair; having to deal with uncomfortable positions for tasks such as writing with the non-primary hand; and darkness, simulating not seeing well for a task. The result is confusion, poor performance, loss of confidence: very similar to what the disabled and elderly people experience on a daily basis in their living environment.



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*Fig. 7: Introducing students to the lives of the "other."*

(Dr. Joseph Wong)

Using his local Hong Kong context of ultra-high density residential skyscrapers, Professor Wong has led his 4th year design studio in the investigation of creating healthy vertical environments. This studio project focuses on a real government redevelopment project located at a busy city corner in Mongkok. Despite the rundown state of the built environment around Mongkok, it is home to a vibrant community of "mom-and-pop" shops, markets, Chinese medicine practitioners, local food stalls, etc, that have grown into an integral part of the lives of the mostly under-privileged families in the vicinity. The studio project examines the possibilities of regenerating the community by rebuilding a better environment to house these local features and extend this vibrant fabric to form a healthful vertical city.

Let us concentrate here on one specific initiative. With an aging population, one of the most affordable and readily available forms of exercise for the elderly is sitting right outside the doors of their very own apartment units – the staircase. However, most staircases in high-rise buildings are hardly used because they are fire escape staircases intended for use only in times of emergency. As a result, staircases are designed to be hidden away inside the central service core of the building with little or no sunlight and with the steepest gradient allowed to save space. It is not the most suitable staircase for the elderly to use.



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*Fig. 8: The user/experts, the elderly who will inhabit the project, are integrated into the design process.*

In this redevelopment of the old market building into a high-rise building consisting of a Community Health Centre, Elderly Centre and other community facilities, Wong's students were encouraged to explore the possibility of using programming to create local movement "networks" to encourage the users, especially the elderly, to make use of staircases instead of elevators for vertical circulation when they move up or down only a few floors. "The individual health benefits of daily exercise are clear; in this instance, the mental health benefits of greater direct interaction with their neighbors might surpass the physical benefits."

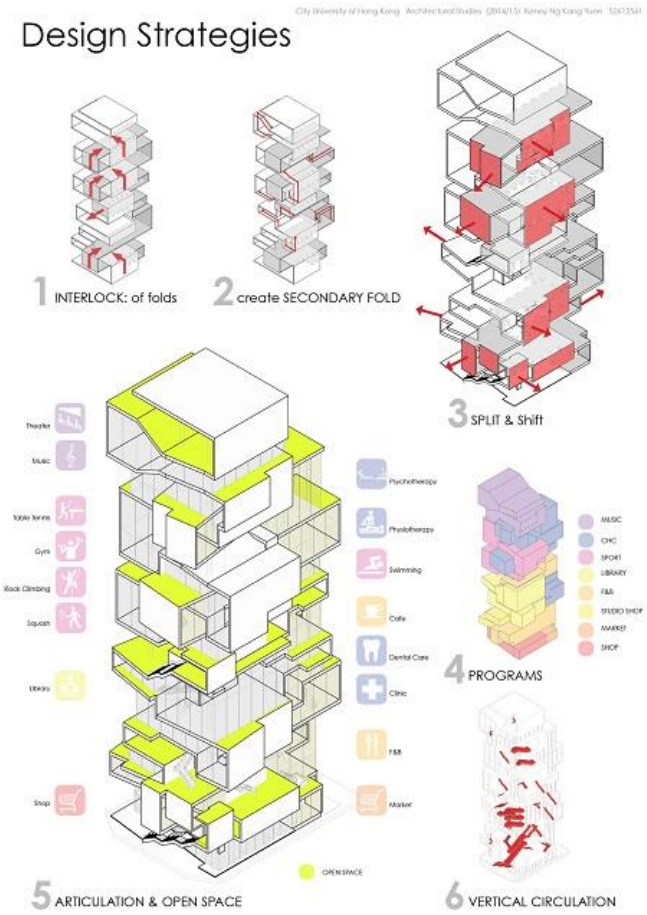


*Fig. 9: Massing Analysis for a "Healthful Vertical Village."*
Student: Kenny Ng



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*Fig. 10a & 10b: Renderings for a "Healthful Vertical Village."*
Student: Matthew Fong

Dr. Wong has also experimented with using graphic networking programs to systematize his students' nascent social and behavioral research. He asked students to chart a mind map of their conversations with their user/experts, including every concept mentioned and if they are mentioned in the same sentence or related concepts then to create a link between them. Using the social network analysis software, Gephi, these are then combined to form a larger map for each group of students, who are working on a (library) project for different user groups. The result is a "more objective analysis of their user expert interview data rather than only choosing bits that they like." Like Božović-Stamenović's student graph(s), this shows the complexity of the issues, but takes that effort one step further by providing a cross-cultural platform and set of tools to examine these complexities.

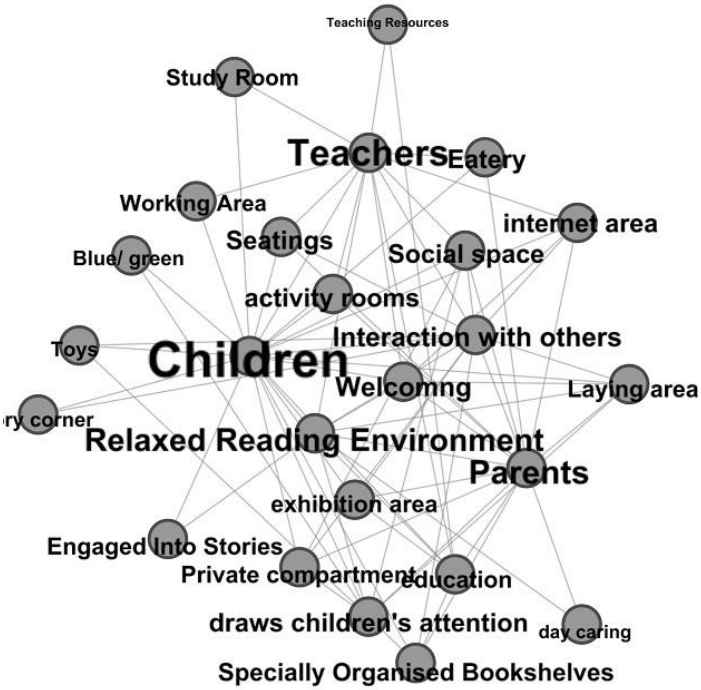


*Fig. 10: The graph of the combined students' mind map.*
*Bolder/larger entries shows "closeness" among concepts.*



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A subtext in all of these excellent efforts and results by the Fellows was the role and efficacy of evidence-based design. Each of the Fellows approached collecting data in a completely different way. There was little time to prepare students how to ask questions to provide the best results and the responses were catalogued in widely differing fashions. Interviewing techniques and date collection in the social sciences is a much-studied topic and the proven findings are widely utilized. There was sense of "re-inventing the wheel" with the students' efforts. Whether students should be introduced to these techniques for their own use, or work and study with social science experts to execute the interviews and surveys is an open question. Perhaps, architecture students should join with social science students in joint research/learning efforts. Overshadowing this methodological issue is the further question of how the architect's traditional creative and often intuitive approach to problem-solving should be integrated into an evidence-based architecture process. It is possible that architecture requires a new model for collecting "evidence."

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**A Basis for Change**

> *In much of mainstream architectural education, terms such as 'context' and 'user' are loosely defined and casually engaged with. Often, they translate into some preliminary documentation of the physical surroundings of sites by way of contextual analysis and profiling abstract and imagined users rather than engaging with real people. This leads to working with preconceptions about users and it is not surprising then that architectural education, and indeed the profession at large, has come under criticism as facing a crisis of relevance in recent times.*
>
> (Guari Bharat, 2014 BERKELEY PRIZE Teaching Fellow, Interim Report on Fellowship year.)

All three Fellows, their students, and the work of the Essayists have shown how, when faced with talking about architecture in non-traditional ways not only does the process of teaching change, but the interests and motivations of the students themselves change. The subject of "The Architect and the Healthful Environment" puts these issues in stark relief, but they point to the same conclusion: the attitudes of students about what is important in design and what is merely style can readily and rightly be changed by faculty who are equally motivated.

The experiences also point to the need to more systematically investigate a series of large-scale changes that would be required to fully implement the teaching of the *social art of architecture*. I have previously reported on five that remain most apparent (Clavan, B. 2014). These are:

1. The emphasis must be on place, not studio;
2. User/experts must become an integral part of the learning environment;
3. Different standards must be adopted for course outcomes; and
4. Social scientists must be (re-)integrated into the design process.
5. The idea of empathy must be consciously incorporated into the architectural studio and classroom.

If architecture is to ever truly reflect its importance as a social art, and if healthful architecture is to be accepted as a prerequisite for good design, a completely different



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approach to the teaching of architecture, the preparation of teachers of architecture, and the motivation of students is required. First and foremost, we must open the door to the question of value, of what works and what does not, of what is good and bad.

- Inside the academy, this new approach questions the accepted dogma of subjectivity and neutrality in traditional teaching, particularly as it applies to subjects of taste and perception in architecture.

- Outside the academy, this new approach requires a willingness to engage with the community in ways much different than traditionally accepted and much more difficult to organize and control.

The result is a different and more sensitive relationship between the teacher and the student, and between the student and their peers, and yes, between teachers and their peers. These re-invigorated relationships will, without question, change the way architecture is taught and learned.

**Applying the Lessons Learned**

Adopting these goals to ongoing and planned healthcare projects will not be easy. The design and construction process in any country is complex, hierarchical, and above-all, steeped in the tradition of the local environment. The new generation of architects, aware of the limitations of formal design and skilled in becoming mediators for people-centered architectural design is not yet in the field. Nor is the healthcare system itself prepared for such changes.

What is clear is that the lessons from teaching healthful architecture are widely applicable to the day-to-day operations in the healthcare environment. Learning in-depth about the people involved at all levels of the system is the first priority: not technologies, not building systems, not therapies – simply, people.

Engaging users in a much more systematic and participatory way is a methodology that can be adopted almost immediately. At the very initial stages of a project, user/experts – those who have actually lived the situation - should be identified. These new participants in the design process should become a constant presence both in developing theoretical responses, interacting during the various stages of design, and even through construction. These same participants should be prepared now to amend the environment later, after occupancy, to reflect what will undoubtedly be a series of changing needs and desires. The result is a design based on consensus and flexibility, not simply rigid geometry imagined in the all-too-common isolation of an architect's office.

The patients top the list, but all of the individuals caring for them and the physical plant are of equal importance in the design process. The tasks that these people undertake are at the heart of a flourishing and well-designed healthcare environment. The physical component of their situation - the setting - should to the greatest extent possible reflect their preferences, their stated and implicit needs, and their thoughts and aspirations. This might seem all too obvious, but surprisingly even the most rigorous programming often overlooks what we know and what we do not know about human factors in design.

This commitment by those who design, build and manage ultimately requires a seminal change in the way we look at the production of architecture as a whole and the relationship between architects, their clients, and society at large. But that is a subject for another paper.

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## APPENDICES

**(Appendix "A")**

**HOW THE PRIZE WORKS**

Each year, the BERKELEY PRIZE Committee poses a Question on the competition website. Students enrolled in any undergraduate architecture program throughout the world or those in collateral disciplines teamed with such students are invited to submit a 500-word essay proposal in English responding to the Question. From this pool of essays, approximately 25 are selected as particularly promising by the PRIZE Committee, a group of 63 international architects, architectural educators, social scientists, writers, and general thinkers. (See, http://www.berkeleyprize.org/endowment/berkeley-prize-committee/).

The 25 semifinalists are then asked to submit a 2,500-word Essay expanding on their proposals. The Committee then selects five to eight of the best Essays and sends these finalists on to a jury of international architects and academics to select the winners. The BERKELEY PRIZE *Essay Competition* is announced, papers submitted, and reader- and jury-reviewed all online. During the past seventeen years, 1870 students have submitted essays and proposals, representing dozens of schools of architecture from 62 countries.

Students are also given a further incentive to compete: each year the selected 25 or more semifinalists are given the opportunity to propose a study trip outside of their home country that is linked to that year's topic. This trip, the BERKELEY PRIZE Travel Fellowship, is hopefully part of a social service event or conference. Twenty-five students have been awarded Travel Fellowships over the last eleven years. Their travelogues speak to the extent to which on-site, face-to-face investigations transform the landscape of architectural inquiry.

As the positive results of this effort multiplied, it became equally clear to the PRIZE Committee that architecture faculty were still not encouraging much, if any, shift in the ways of looking at the art and task of design. This was an issue of *teaching*. Starting in 2013, a Teaching Fellowship in the Social Art of Architecture was initiated as a first step to encourage and foster a new approach among faculty.

In recognition of these efforts, the BERKELEY PRIZE is the recipient of the 2008 American Institute of Architects Collaborative Achievement Honor Award; and the 2002 American Institute of Architects' Education Honor Award. The BERKELEY PRIZE has also garnered international acclaim, not the least reason for which is its complete embracing of digital technology. In partial recognition of this outreach, the 2003 BERKELEY PRIZE competition was named a special event of "World Heritage in the Digital Age," a virtual congress helping to commemorate the 30th anniversary of the UNESCO World Heritage Convention.

In 2014, a total of 237 students responded to the competition announcement. Of these, 141 undergraduate architecture students from 28 countries were qualified to participate.



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**(Appendix "B")**

**LIST OF THE 2014 BERKELEY PRIZE JURY**

**Arza Churchman**: Professor Emeritus, Technion Faculty of Architecture and Town Planning, Haifa, Israel; past President, International Association for People-Environment Studies; 2001 Career Achievement Award of the Environmental Design Research Association (EDRA).

**Susan Goltsman**: Children's Environmental Designer with degrees in Architecture, Landscape Architecture and Envrionmental Psychology; Founding Principal of Moore, Iacofano, Goltsman (MIG), Inc., Berkeley, California, U.S.A.; author of *Play for All Guidelines* and *The Inclusive City*.

**Daniel Karlin, M.D**.: Medical Resident, University of California, Los Angeles Combined Program in Internal Medicine and Pediatrics with an emphasis on underserved medicine and global health; Recipient of the Albert Schweitzer Community Service Fellowship, and the Fogarty International Clinical Research Scholarship; Member, BERKELEY PRIZE Committee.

**Adriano Pupilli, RAIA**: Sydney, Australia-based architect working at the junction of art, architecture, ethics and the environment; Collaborator in *Healthhabitat*, and on community-led development initiatives, including *Fixing Houses for Better Health*; First winner of the BERKELEY PRIZE Travel Fellowship (2004); Member, BERKELEY PRIZE Committee.

**(Appendix "C")**

**LIST OF THE 2014 BERKELEY PRIZE ESSAY WINNERS**

**Tazrin Islam,** Bangladesh University of Engineering and Technology, Dhaka, Bangladesh: *"Livability vs. Lovability" (First Place);*

**Nipun Prabakar and Sukruti Gupta,** School of Planning and Architecture, Bhopal, India: *"Spaces to Grow: A Comparative Study of Two Orphanages" (Second Place);*

**Michael Philpott,** Dalhousie University, Halifax, Canada: *"Healthful Halifax: Designing Healthful Spaces, Learning by Example" (Third Place, tie)*; and

**Aparna Ramesh,** Visvesvaraya National Institute of Technology, Nagpur, India: *"The Architecture of a Healthful Learning Environment" (Third Place, tie).*



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**(Appendix "D")**

**LIST OF THE BERKELEY PRIZE TEACHING FELLOWS**

(2014)

**Gauri Bharat**, Assistant Professor of Architecture, CEPT University, Ahmedabad, India.

**Ružica Božović-Stamenović, Ph.D.**, Associate Professor, Faculty of Architecture, University of Belgrade, Serbia (first semester); Visiting Senior Fellow, Department of Architecture, National University of Singapore (second semester). She is also a Faculty Fellow at the Center for Health Systems and Design, Texas A&M University.

**Joseph Francis Wong, Ed.D., M. Arch.,** Assistant Professor, Department of Architecture and Civil Engineering, The City University of Hong Kong.

(2013)

**Allan Birabi, Ph.D.**, Senior Lecturer, Makerere University Department of Architecture and Physical Planning, Kampala, Uganda.

**Eve Edelstein, Ph.D., Associate AIA**, (Then) Associate Professor, University of Arizona College of Architecture, Planning and Landscape, Tucson, U.S.A.; (Now) Faculty, NewSchool of Architecture & Design, San Diego, U.S.A.

**Ajay Khare**, **Ph.D.**, Founder-Director and Professor, School of Planning and Architecture, Bhopal, India with **Rachna Khare, Ph.D.,** Professor of Architecture, SPA, Bhopal.

**Alex MacLaren**, **RIBA**, Design Tutor, Edinburgh School of Architecture and Landscape Architecture (ESALA), Edinburgh, United Kingdom

**Josh Safdie, Associate AIA**, Adjunct Faculty Member, Massachusetts College of Art and Design (MassArt), Boston, U.S.A.

**Faiq Mari** (Associate Fellow), Teaching and Research Assistant, Department of Architecture, Faculty of Engineering, Birzeit University, Palestine.

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