City design has never been more important and never has it been more problematic. Climate crises as well as social, economic and racial inequities are now critically compounded by our current health crisis and the consequences are vividly visible. While crises amplify inequities, they also remind us about the things we care about, and have always cared about: good housing, street life that supports chance encounters, and environments with good air, light, and water.

My research, practice and teaching have revolved around the design of relations that weave architecture and urbanism together, that integrate the private realm with the public, that tie inside with outside, and that amplify the influences of buildings upon each other. While sustaining dwelling and the distinctive, shared experiences of our communities has long been my passion, the current crises are propelling, directing my practice with even greater urgency. My practice is rooted in observing the complex relations between the forms of our environments and the ways in which we associate with them. Thus, to describe my work in light of my hopes to address today's context, I will briefly describe the observations which are the foundations of my work followed by areas of emphases.

Observation 1: Built environments that have flourished and have endured are rich and complex, manifesting the choices of residents and visitors alike. We admire these settings for the multitude of ways they support being within a place -- in a city, in a neighborhood, in a street, in a room. These environments connect us to a place through a continuity of spaces spanning the distinct boundaries between buildings, between inside and out, or between public and private. In the long tradition of building, cities have mostly been interconnected places.

Observation 2: A confluence of concentrated capital, top-down agency, and assumptions of cheap energy and technologies of mass production fueled a move away from the design of buildings as part of community fabrics toward the design of buildings as objects. The resulting paradigm shifted distinctiveness from urban fabrics to individual buildings and the source of form from locale to building sponsor and designer. The results are cacophonies of objects that now characterize our cities and suburbs. Local differences — neighborhood textures, district orientations, and collective practices of dwelling — are disappearing.
Observation 3: Our design practices are increasingly losing the design tools to make vibrant cities. Too often we design buildings and sites as discrete objects and we increasingly depend on data sets whose representation bifurcates cities as built or unbuilt, inside or out.

As our world faces so many complex challenges, we cannot simplify while we clarify. My work has been to shift our design perspective from seeing cities as the aggregation of discrete buildings (or figures) to relational structures (or fields). I come to this position through extensive observation of urban forms, their uses and how relations between the two are mediated. The core of my research and creative work is directed toward exploring the formal languages, generative tools, and systemic relations that weave together the design of better cities.

Within this context, the three themes that I will organize my contributions include: urban robustness, collective porosity and the primacy of locale.

**Urban Robustness:** There is something about these crises that leads to desires and hopes for quick, universal solutions, but what makes architecture and urbanism complex is that what we build should and does endure. In our field, we have to remember that our revolutionary solutions have evolutionary consequences, and history awakens us to the need for wariness. Throughout my practice, I advocate for multi-scalar capacity for uses, and differentiated life cycles of building and urban systems — what is should last (and how) and what changes every day (and how). Architecture should be both built to last, and built for change.

**Collective Porosity:** Health and wellness will require environments that are more permeable. Density will still be needed, but it needs to be finer grained and permeable to air, light, and water. The coarse grain urbanism that began with the Radiant City and now dominates cities will need to be unpacked and rewoven with collective spaces that increase livability.

When the built landscape is seen and designed as a continuum, there are no spaces that are “left over” nor “outside.” The sense of being in a place, whether interior or exterior, can be developed at all scales of the environment. Aggregating individual building actions to achieve more -- more density, better use of
land, conservation of energy, water and material resources — is critical to the persistence of places that endure.

**Primacy of Locale:** We need to be very wary of singular, universal solutions when it comes to the physical environment. Designs that will be environmentally just will be locally rooted — accounting for differences in geology, in geography, in microclimate, and in the peoples of each locality.

What’s Next?

While these statements tend to be retrospective in describing one’s achievements, my hope is that my work to date serves as foundation for the things still to come. These are uniquely challenging times — and times of opportunity — for architectural education, for the field of architecture and for the profession. Global warming, pandemic, and racism converge and require us to question what is next.

As an academic administrator, what’s next includes making the field of architecture more inclusive and welcoming. We will ask: how are racism and other forms of exclusion built into our department — in our infrastructure, in our community, and in our curriculum? And, in identifying and acknowledging sources, we must make change. My thesis is that architectural education, and in particular design pedagogy, serve as barriers to inclusivity and diversity that gets mirrored in the profession. We are a problem. And here, revolution is not only possible, it must be enabled.
What follows is an illustration of how this design paradigm of extending fields addresses robustness, porosity and locality as seen in the courses that I have taught, the books I have written as well the projects of my professional office.

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My approach to architectural education, like my research, is based on seeing field conditions. My students learn to see form, to understand how others bring their use and associations to form, to explore the shifting frames of form. My goal is to initiate in students an on-going practice of observing, recording and reasoning with a spatial and material continuum in which architectural relations, or systems, are integrated with urban ones. I use design exercises as short, structured exercises in slow water.

These student projects are from a new research and design initiative for which I serve as PI. The studio is a privately funded collaboration between University of Hong Kong and UC Berkeley. The environmental design colleges at both universities have just completed the second year of a three-year sequence of graduate research seminars and studios focused on comparative analysis and design of the greater bays surrounding Hong Kong and San Francisco. The theme of these research studios is Pacific Rim Urban Resilience by Design.

Our methods are to study, speculate, and offer design strategies in two areas of water resilience planning (urban waterfront armatures and water systems that accommodate precipitation volatility) that hold the potential to move the public discussion forward and directly impact public policy, planning, and urban design. The studios are multi-disciplinary — faculty and students.

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design activities intended to raise issues and questions rather than solutions. In parallel, design projects allow students to integrate and synthesize the lessons from the exercises.

This underlying approach structures a range of introductory to advanced studios as well as exploratory seminars. Recent multi-disciplinary studios bring together students in our planning, landscape and architecture programs.

In the past decade, my studio studios partnered with Chinese institutions including Tongji University, Hong Kong University, the Institute of Urban Construction in Tianjin and the Tianjin Urban Planning and Design Institute (TUPDI).
In dense cities like Hong Kong, the ground holds many valuable functions. Stormwater infrastructure is no longer sufficient as rains increasingly flood the city, bringing ground activities to a halt. The studio's proposition is to use buildings to catch, slow and clean rainwater for urban uses, rather than dispose of the dirty water into the Bay.

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Arch 202- Option Studio Vertical Cities Asia. This multi-year, multi-school competition, hosted by National University of Singapore, explored a variety of ways that density should be addressed in different Asian cities, in this year, Hanoi, with the theme of “Everyone Harves.” The projects began with the systems of water and agricultural production as the source of urbanism and focused on the permeability of light, air and water into the low- and mid-rise fabric.
This systemic relations approach also informs the pedagogy of my integrated design studios. Here building systems and urban systems are seen as a continuum, and while a building will operate discretely, it must also give back to the larger context.

ARCH 203- Integrated Design Studio: Up on the Roof. This studio transformed three common urban building paradigms (new ground, the mixed-use plinth and water containment) into a new mixed use building type: the urban farm. To do this, the studio explored the design potentials of systems integrations with priority on systems for fruits and vegetable production, water, and gravity. The first four weeks were spent in rapid systems sketching to make propositions, iterating between diagrams, building forms and systems underlays to learn about the requirements and opportunities afforded by each. In the integration into a schematic design, students explored hierarchic, independent and interdependent relations between three prioritized systems with other systems including egress, access, service and so on.

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My research begins with close study and documentation of existing field conditions which are transformed into tools that advance the design of relational urban forces and forms. This has been explicated through my writing of books and articles. I highlight the two books here.

Suburban Space: The Fabric of Dwelling which was published in 2002 by University of California Press. Suburban Space offers an alternate vision of conventional suburban housing that characterizes much of the American residential landscape. The book provides an original integrated approach to design that sees the residential setting as a fabric of interrelated spaces that supports cultural diversity and change, promotes sharing within a setting, and describes a more sustainable use of land. The book

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contains unique comparative studies of neighborhoods in Cambridge, Charleston, San Francisco, Levittown, Radburn, and housing by Rudolf Schindler and Irving Gill, as well as other residential settings.

The argument for a fabric of dwelling is not founded on generalizations about how people live, but on documented observations of the particular ways in which people organize their daily lives. The book demonstrates how one of the most disparaged yet common types of housing in the United States can become environmentally and culturally viable.

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More recently, I have taken on urban fabrics, in particular those in China whose development in the last 20 years magnifies the consequences of the object paradigm of development. A shift to a relational paradigm empowers the architect and architecture in city design: as we build more densely, we should expect to get more — greater variety of ways to gather, new scales of building that decrease resource consumption, and a capacity to accommodate inevitable change.

In 2015, Changing Chinese Cities: The Potential of Field Urbanism was published by National University of Singapore Press and University of Hawaii Press. Using a lens of relational conditions, the first part of the book describes life in neighborhoods of Beijing, Tianjin and Shanghai. Detailed observations from

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courtyard to city reveal the continuous relations that build these locales. The second part of the book unravels the historic, cultural and economic forces that favor city design through discrete objects as opposed to relations, positioning China within a global phenomenon. The third part of the book illustrates how relational attributes are relayered to integrate architectural forms that are rooted to a place, illustrating a new paradigm for urban design and master planning.
The field work in much of the book was first developed as part of traveling studios. In the case of ZhuJiaJiao, there was a unique opportunity in that after the studio was completed, a competition was announced by the Qingpu district government. The brief called for schemes that would “bring back the awareness of natural evolution of man-made habitats, inspire a new paradigm of city development, one that is neither urbanism nor suburbanism, and provoke a dialogue between Chinese heritage and contemporary living.” So, within my professional office, we submitted the entry that is in the book. One of twelve projects selected for honors of which ours was the only non-Chinese entry to be recognized.
In 2000, I founded Studio URBIS with my partner, Thomas Chastain. Our professional practice is integral to the critical perspectives of my research and teaching, and vice versa.

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Las Trampas is a non-profit organization that provides essential support and services for adults with developmental disabilities to discover their capabilities and to lead full lives in their homes, at work, and in the community. Most of the adults served by the agency have moderate to profound impacts, including intellectual disability, autism, cerebral palsy, seizure disorder, and other similar conditions. The existing campus was built over 50 years ago as a residential facility for children.

The new facility is a prototype for the education of people long overlooked. With few building precedents, part of the design brief was to review research on the interaction of this population with the environment, in particular looking at enabling these individuals through design. The result is a state of the art facility providing choices in stimulus, legibility in navigation, transition areas between all activities, indoor-outdoor connections, unobtrusive supervision, and specialized support facilities.
Top:
Reciprocity House
Lafayette

Middle:
Elements House
Palo Alto

Bottom:
Shell Ridge House
Walnut Creek

Published in Dwell Magazine and featured on the AIA Silicon Valley House Tour.
What’s next in these uniquely challenging times?

I am hopeful. As administrator, it is time to assess what we teach and what is missing. As designer instructor, it is time to review how we teach and how inequities are imbedded. As architect, it is important to be both optimist and agent of change!

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