

DesignIntelligence®
Quarterly
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PRAGMATIC DESIGN

CONTEXTUAL
AWARENESS















DesignIntelligence® Quarterly

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Context - Michael LeFevre

For thirty years, one of the hallmarks of this publication has been the deployment of essays and interviews - backed by research and expertise - as primary literary forms. These two vehicles allow you, as readers, to reap the benefits of perspective and experience in deeply human ways. Always personal and individualistic, they offer the keen focus of defined angles and points of view - to be embraced or challenged at the reader's discretion. They are also forms that offer their authors opportunities to explore ideas themselves, sometimes vulnerably, baring their minds and souls as they examine new worlds of possibility, even to the point of challenging their own hypotheses.

By doing so in an intentionally safe place - the digital halls of DesignIntelligence Quarterly and the DI/DFC nation - they do so knowing at worst, that they will have provoked dialogue and discussion among their peers and colleagues, an august body of built environment professionals also likely seeking to reshape the direction of their thinking. At best, they will have exercised themselves and their readers. What better place and way to share, stretch and build strength?

As you wander the handheld literary halls of this quarter's compilation to pursue your mental workouts, ask yourself if you are being cajoled outside your comfort zone. That's our goal: to

evoke and invoke new thinking, and to influence behavior and action. So, read on, think on, and jump in.

We can no longer sit on the banks of our profession. As summer approaches, we must jump into the turbulent waters. Such dangerous acts require courage and can even seem foolish. As one of my favorite muses, Loudon Wainwright III¹, put it:

*This summer I went swimming
This summer I might have drowned
But I held my breath and I kicked my feet
And I moved my arms around
Moved my arms around
This summer I swam in the ocean
And I swam in a swimming pool
Salt my wounds, chlorined my eyes
I'm a self destructive fool
I'm a self destructive fool*

-
Loudon Wainwright III, The Swimming Song

¹ Despite his lone top ten hit and self-admitted worst song, *Dead Skunk in the Middle of the Road*, Loudon Wainwright III remains one of America's great poets, musicians, folksingers, songwriters, humorists, satirists, and observers of life, perhaps acquiring his skills genetically. His father, Loudon Wainwright II, was a mainstream voice in American culture as the lead essayist for *Life Magazine* in the 1960's, 70's and 80's. His regular column, *The View From Here*, examined everyday aspects of life in thoughtful, skeptical, lyrical ways, a capability exhibited in subsequent generations by his son Loudon Wainwright III, his grandson, singer/songwriter Rufus Wainwright, and other family members. Freshly buoyed by seeing LWIII in concert, I borrow his lyrics as a metaphor for this month's Contextual Awareness theme.

Jump In

Yes, it's time to jump in. To hold our breaths, kick our feet and move our arms around without self-destructing - and with pragmatic focus. While you may argue that you've already immersed yourself in the waters of practice, as a coach of sorts, my job is to push you.

This Quarter's theme asks us to consider the frames that define our work -- the backgrounds and ways of seeing that surround it and give it meaning. As designers and builders, we have always carried the burden of understanding and reacting to myriad reference frames. By selecting the extent of the forces that affect our work we make conscious decisions about what to include or exclude, and how to weigh these forces in our syntheses. It's an odd amalgam of choice making and our choices are only growing.

Where do we draw the lines? In the past we could turn our gaze inward at will claiming "I'm just an architect/builder/

planner/owner [insert discipline here]. I just do buildings. All that stuff outside is not my job." No more.

In our new epoch of global connectedness, we now carry a mantle of greater responsibility. The signs are clear. It is now our duty to consider environmental, social, economic, health-related, moral, ethical and a host of other concerns in the process of executing our commissions. None of them are easy to wrestle with. With greater visibility and access to information, firms have come into question for their political choices and affiliations. For example, challenges have been made to firms working on the notable Neom Project, also known as The Line, now taking shape in Saudi Arabia, a 170 km long, 1,640 feet high, 650 feet wide, continuous, linear complex inserted in the Saudi Arabian desert. Taller than the 102-story Empire State Building, the project will stretch from the Red Sea approximately to the city of Tabuk, on the Hejaz railway and is intended to accommodate nine million residents, resulting in a population density of 260,000 people per square kilometer. A bold gesture to be sure.



But what will the impact of such a project be upon the local ecosystems and the future residents of such a dense urban ecodevelopment? Is it moral or ethical to be involved? Is it risky? Of course. Not only in traditional personal, career, firm and financial ways, but for its repercussions and systemic effects on its users and constituents, potentially at continental and planetary scales. Or is it our responsibility to take the lead and act in such significant ways and greater scales? Few of us have the experience or education to understand projects of such magnitude. Following noble economic tradition, we divide and conquer to accomplish the work, happy to do our part as collaborative teammates. But what of the whole? Is it comprehensible? Should it be undertaken? To do so we need help. Hopefully, those who have decided to take the wheel of such endeavors have armed themselves with the best experts available. I hope and trust they have.

Meanwhile, the rest of us must console and equip ourselves to cope with our own continued growing spheres of influence. These days we have taken on the responsibility to do more. Surely, we can grow without being self-destructive, and an occasional foray into managed foolishness never harmed anyone. Besides, we're here to protect and help one another. And so, with order and method, good will and intention we have asked leading industry voices to share their thinking on aspects of Contextual Awareness. Each has moved their arms and minds to contribute.

Contributors

In this issue of DesignIntelligence Quarterly we assemble a dozen voices to consider our contexts and share them to influence yet another context: the thinking and doing of built environment professionals.

As we look to Q2 and the summer of 2023, our body of fringe whitewater thinkers and swimmers contributing to this issue includes, from our regular cast of usual suspects:

- DI CEO Dave Gilmore, whose essay *Staying in the Center: Contextually Aware Leadership* reminds us of the importance of balanced perspective.
- Paul Finch, whose *Letter From London* asks if it is acceptable to be Out of Context.
- Paul Hyett, whose piece, *Leaving Well Enough Alone* bemoans modifications to public housing in the U.K.
- Scott Simpson, who attempts *Putting Context In Context*.
- In his essay, *Context: It's Not All About You*, Bob Fisher reminds design firms that when it comes to winning work, clients come first.
- My own essay *Rotating Heads* invokes coaching and military counselling while telling us to keep our heads on a swivel as we make decisions.

Along with the following carefully selected guest contributors:

- Sarah Susanka, author of the bestselling book *The Not So Big House*, joins me in a conversation about the larger contexts and responsibilities around residential work.

- Architect, academic and author of Down Detour Road, Eric Cesal, who in his provocative two-part essay, examines the changing context of our profession over time and offers a bold experiment: an artificial intelligence-generated video.
- Stantec's Stephen Parker, a mental health design subject matter expert practicing to inform design professionals, offers his essay, Elevating Mental Health Awareness.
- Danielle Hermann and Justin Bishop from OPN architects, share their strategic planning journey catalyzed by looking externally to the firm, in their compelling story, Heads Up, Eyes Out, Hearts Open.
- Francesca Birks, an expert at foresight and strategy, advises on Transforming Systems.
- An interview with Monograph's CEO Robert Yuen and report contributor Marjanne Pearson, entitled Making Metrics Matter, to understand their recent report outlining the need for firms to look at their management metrics and in the context of the industry-at-large.

We hope you will find these explicit musings of value as you contemplate and execute the futures of your firms, families, friends and fiduciaries as you join us in the waters of change.

Enjoy, and swim on!

To continue the discussion about Contextual Awareness, please contact us at mlefevre@di.net

*Michael LeFevre, FAIA Emeritus
Managing Editor, DI Media Quarterly*

2023 EDITORIAL ROADMAP: PRAGMATIC DESIGN



STAYING IN THE CENTER
(CONTEXTUALLY AWARE
LEADERSHIP)



PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Staying in the Center (Contextually Aware Leadership)

Dave Gilmore

President and CEO, DesignIntelligence

Our recent Design Futures Council Leadership Summit on Technology & Applied Innovation in La Jolla focused on the theme of business transformation empowered through data and digital optimization. Central to the two-day event was the role of leadership to actualize the noted transformation. The prevailing message was this: From beginning to end, leadership's role is to stay in it, learn along the way, ask curious questions and be a part of the team, not apart from it.

Central Posture

Leadership's role is essentially a centrally postured position. Effective leaders manage their priorities and calendars to maintain this centrality. But when the calendar gets so packed that it's managing the leader rather than the other way around, leadership is drawn out of the center and onto the peripheries of the seeming disconnectedness of secondary uselessness. Caught in this morass, leaders lose the point of leadership, and their organizations feel it.

I know this firsthand. My role at DesignIntelligence requires me to stay in, and lead from, the center of the organization. My job is to think, speak and live – to emanate – the transformation we're focused upon, so it becomes functionally contagious. But like yours, my schedule is crazy sometimes. The phone calls and texts, the emails, meeting invitations and the legitimate push and pull from my partners and employees can all draw me away from the center where I'm most effective. Let me correct that statement: These things don't draw me away, it's me who loses focus and gets my priorities out of order. What defocuses you from your centered place as a leader?

Another illustration might help. I was visiting a leader several weeks ago whose firm is a member of the Design Futures Council. We had a great catch-up session and then got down

to business. Over the years DesignIntelligence has supported this firm with direction, advice and leadership support. We've watched them transform from a strong, centralized organization to a globally decentralized design powerhouse. The choreography between those leading the business of design and those doing the work of design was carefully rehearsed over a long period to ensure extraordinary design outcomes and elevated bottom-line results. This is one of the most difficult challenges any design-centric organization must address.

As we began working through our agenda, I was struck by the scattered signals this leader expressed in language, body movements and shortened attention span as they introduced new themes and topics into the conversation. It was frenetic. Our dialogue began to feel unnatural to the point of awkwardness. I paused for an equally uncomfortable stretch to hopefully reset the tone – and he noted it. With a sheepish smile he admitted, “Ah! I've done it again! I'm all over the place, aren't I? I'm so sorry, Dave. My partners have been harping on me that I've become so scattered I'm jeopardizing losing the primary agenda.”

I responded, “Well, it's good to have partners who risk telling us what we don't see, isn't it?” I continued my query, “In this seeming scatteredness, what's happening inside of you when you get to that place? What are you feeling or seeing that shifts you into that mode?”

He replied, “There's far too much to do in any given day than any single leader or team of leaders can accomplish. I feel like we're falling further behind and disappointing our key stakeholders ... the employees, consultants and partners who rely on us. All I can see is the growing list of to-dos, and so I kick in and try to knock as many of the items off the list as possible before more get added.”

Ever feel that way?



As a leader of the built environment, your job is to operate from the calm, settled integrity others rely upon. Your role is best described as steady, founded and strategic.



Foresight

Time is the most precious commodity ever invented by humans. There's only so much of it allocated to our 24-hour constructs known as days. Once passed, a day is gone, never to return. Then a new one begins — one after another, until suddenly, sometimes known but often unanticipated, it all ends. The most effective leaders operate within the awareness of waning time and prioritize accordingly. Refuse to wade into the mire of de-prioritized activities. Remember your role and prioritize around that. Delegate to your team the items central to their roles. Be the leader who remains focused and contextually aware.

Foresight is the forward-facing vision into the known, the probable and the possible, the consideration and expectation of wisdom that transcends the current time frame. Reliable foresight operates from a careful blend of historical understanding, a present awareness and an intelligent prognosis. An inadequate substitution for foresight is agenda-based speculation. It's marked by biased opinions, decontextualized single-fact inventories to "prove" points, derogatory commentary directed to repel opposing perspectives and pseudo-intelligent argumentation as the presentation layer intended to appear sophisticated.

As the new year advances, beware the speculators hawking wild claims about the future. Most will speak to the unseen future, wildly brought into vision through use of language and portents of ominous happenings. As built environment leaders, your job is to operate from the settled state of integrity that others depend on. Yours is the role best described as steady, founded and strategic.

Predictions

I like to play the game of throwing darts at a board marked by concentric rings leading to the bullseye in the center. It's a matter of distance, arc, velocity, form and luck. Thankfully, I usually at least hit the board when throwing, but the surrounding wall is also densely populated with holes from the myriad darts that strayed far and wide from the target. In most dart-throwing establishments, you'll note this phenomenon ... more miss the target than hit it. But I persist. And every once in a while, when I'm feeling it, I even hit the center. Joy and elation result!

But just because I hit the center every so often doesn't make me a reliable, dependable or expert dart-thrower. If money was on the line, you wouldn't want me on your team. I'm an amateur at this game and only do it for the fun of it. For the hope, the promise and the sport of "maybe" — "maybe" I'll hit the center. Aware of the odds, I throw my darts with full awareness of the context — the time, space and conditions, and the potential risks and rewards.

Those who claim to be right in their predictions most of the time maintain a short, narrow foresight trajectory or claim they predicted something only after the fact. Even more frightfully, they have fooled themselves and those vulnerable enough to buy into their speculations.

What marks a speculator who believes their own distortions is the dynamic of extension. Such speculators will extend their cobbled-together cases further out on the time horizon, and those who bought their stories before will continue to buy into their projections. Beware the speculators, because they lead you away from integrity-founded intelligence that keeps you heads-up aware to the near- and intermediate-term futures you're leading your organizations through.

As a leader of the built environment, your job is to operate from the calm, settled integrity others rely upon. Your role is best described as steady, founded and strategic. Stay the course of leadership from a centered and aware position — and enjoy dart throwing for what it is: a game.

What kind of leader are you?



What defocuses you from your centered place as a leader?



Dave Gilmore is president and CEO of DesignIntelligence.



ROTATING HEADS

PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Rotating Heads

Michael LeFevre

Managing Editor, DesignIntelligence

DI's managing editor considers contexts and decision making for design professionals

A vital, vivid bit of advice comes to us from sports commentators and military advisors in times of heightened conflict:

“Keep your head on a swivel.”

This crude “coach speak” description seems the stuff of cliches or some B-movie man-machine hybrid cyborg creature. More sophisticated advisors might tell us we need:

“360-degree awareness.”

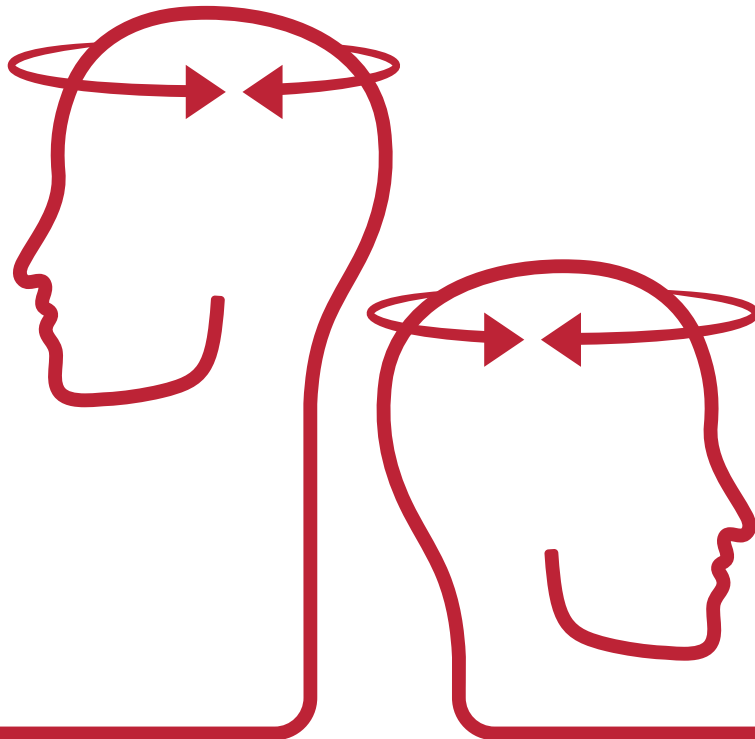
These kinds of admonitions might lead new entrants to the battlefields of sports, business and global survival – and even professionals in the built environment industry – to wonder:

Why the emphasis? Why now?

The answer is simple: We are now connected in ways we never have been before. To exist, survive, and effect positive change we must be ever vigilant and sensitive to our surroundings, and we need new modes of decision-making to accommodate our many contexts and connections. Since information is coming at us from all directions, we need to constantly look for it and decide which to use.

Connections

While native peoples, Eastern philosophers, and leading thinkers of the western world have long known the importance of existing in harmony – man with nature; all races with all others; one tribe with the next; and current generations with those of the future, we denizens of the western world are late to the party. Myopically shaped by our limited U.S. world view of always-abundant resources, constant growth and a historical position atop the geopolitical pecking order has created a monster: multiple generations of Americans who have grown up in a reality distortion field – a world in which upper tier incomes are expected, and those unlike us are shunned. A too-narrow context in which to design. Things have changed. We now are concurrently burdened and liberated by an endless, expansive



set of realms in which to live, work and play. It's not about “us” anymore. It never was. Here are just a few of the ways we are connected these days:

- Our food supply is part of a global supply network. While food waste in developed countries grows, millions starve in third world nations.
- Our built environment uses scarce resources irresponsibly and consumes 40% of the planet's embodied energy. Carbon emissions continue to grow.
- Our information and communication systems have now evolved in ways that exceed our ability as humans to use and understand them. Their very existence is changing us in unimaginable ways: shorter, shallower attention spans; attention deficit disorders; media addiction.
- Our social and human systems now grant us access to races, creeds, genders and agendas that span the globe. Each of these sub-contexts has the potential to connect or divide us.
- A plethora of concurrent crises have become the norm, all affected by the solutions we design and build. These include global pandemics and public physical and mental health challenges, economic recessions and supply network shortages, and political mis- and dis-information campaigns.

While this set of connected systemic wicked problems is becoming well understood, what is less well understood is how to deal with them all. Let's explore that.

Considerations and Capabilities. Perspectives and Scales

As designers, we are proud of our broader perspective. We are skilled at seeing things in many perspectives and scales. We learned to take these views in school, in limited ways. “Consider the urban scale”, we were told. “Walk the site, analyze it, even engage the community” many of us educated in the 70’s and beyond were counseled. Design masters such as Frank Lloyd Wright worked at a multitude of scales and contexts ranging from site design to integral organic architecture, systems and structure, all the way to designing furniture and tableware for his pioneering creations. The fact that much of his furniture was angular, uncomfortable and unsuitable for its purpose is a story for another day. But give him credit – or criticize him – for at least caring (or perhaps indulging his inflated ego) and trying to control a larger sphere of influence in his work. Beyond a merely-reactionary solution to a design opportunity, in his own



That’s what we do, isn’t it? It’s our job as design professionals. We make decisions. Deal with it.



paradoxical ways, Wright was early practitioner of expanding and re-shaping contexts – changing them to suit his singular visions. While remarkable, his efforts were not always successful. What can we learn? Perhaps that a more multi-valent outlook would serve us better.

Excuses and Decisions

In our hyper-connected world – a place in which anything and everything we do can affect everyone and everything, we can no longer afford the luxury of our former excuses:

“I’m just one person.”

“I just do buildings.”

“That’s not my job. I’m not paid to think about that.”

“If I don’t do it, someone else will.”

“There are too many decisions. I can’t cope.”

“I can’t take responsibility for the effects of my actions on buildings/systems/people/environments/societies [insert context here] downstream.”

As a result, the responsibilities for deciding what to do, how to do it and who to do it for have become almost overwhelming.

As an architectural student at the University of Michigan in the 1970’s, I once lamented my plight in the then-assigned design studio problem to professor Colin Clipson. “I’m struggling”, I confided. “Working through so many options. Trying to make some decisions to narrow the exploration.”

He smiled. “That’s what we do, isn’t it?” he reminded me with empathy, but not sympathy. “It’s our job as design professionals. We make decisions. Deal with it.” The implications, in his groundbreaking design methods course, were: not only did I need to get my attitude right, but I needed to develop some kind of rigor and process for making the countless, thousands and millions of decisions that would confront me over the course of the rest of my life as an architect. Clipson was right. He helped me understand and cope with the magnitude and nature of our jobs as designers – to decide, and to help others do so. How do we go about this? Only by deciding what not to do can we decide what we will do.

Faced with such a multitude of contexts, consider the designer’s plight. At every turn, it’s a head-spinning paradox: do we include more information or decide now? Explore more options or make the call?

Regardless of our choice, each time we must make the decision with care, evaluate the factors and risks, assess the obstacles and opportunities, and then - using education, experience, judgment and wisdom - make our best guess. It’s what we do. In these instances, no one knows for sure, but leaders must decide. Or do they? Sometimes it’s better to leave the options open and defer the choice until the priorities clarify themselves.

In this respect, the designer’s mindset is a bit like a scene from last year’s *Top Gun: Maverick* film remake. The flight teams meet for a day of sun, fun and games – sun bronzed bodies and team bonding over beach football. But to make it more lifelike, (or in-flight combat like in their case) they play with a surprise new rule: there are two footballs. Teams must play offense and defense at the same time. Where to focus? That’s the question. Contextual awareness indeed.



In her new book, *The Light We Carry*, to help us cope with so many possible inputs, Michelle Obama counsels us to tap into “the power of going small” by absorbing ourselves in the detail, focusing and giving our attention to who or what we’re doing at that moment. It’s an existential thing, a positive habit espoused by leading thinkers such as Albert Camus and other advocates of “being present.” Obama reminds us that “jeopardy is woven into the human experience... we must learn how to face anxiety and uncertainty, and how to be ‘comfortably afraid’... There’s a middle zone, a place where we can operate without fear, awake and aware, but not held back... [a place where we] stay balanced and think clearly in its presence.” To support this contention, Mihaly Csikszentmihalyi, the noted psychologist and author of *Flow*, characterizes this zone as the place where we migrate between boredom and anxiety.

As designers, we do this for a living. We embrace contexts, uncertainties and decisions, knowing all the while that each choice we make closes some doors yet opens paths for others - with

associated impacts for the future occupants of our buildings. We test and go beyond the edges of our comfort zones. That’s how we face fear. That’s our courage. While mere mortals would be rendered catatonic faced with so many weighty decisions, we designers dispatch them with aplomb. But it ain’t easy.

The best of us can transcend mere mindfulness and reach awareness - a conscious heightened state. It’s what we pay attention to that enlightens us - and enriches our work. In his book, *Turning the Mind Into an Ally*, Sakyong Mipham calls upon meditative and contemplative principles as he tells us to “disempower bewilderment by recognizing and releasing thoughts and emotions...” and deploy “discipline to adopt a wide-angle, long term perspective.” As Mipham explains, our mission is “learning to decide what to accept and what to reject,” and to imagine, “What are the actions? What are the results?” It begins with “the basic attitude of enlarging our motivation to include the welfare of others.”



Our duty is to discursively wrestle with each of these many factors, contexts and constituents and ensure they've been "seen", "heard" or considered. Then, based on the many things we've seen, heard and considered, our task is to process them by slicing dicing and analyzing them and casting some aside into the compost heap. Finally, we place a select few criteria in our human, professional "crockpots" to produce "design stew." Some of us use a slow cooker. Some of us pop our decisions into microwave ovens. Some of us have even mastered the art of accommodating many cooks in our kitchens. No matter our approach, each of us is expected to produce rational, poetic, economical works of architecture out of kitchens that often lack the proper ingredients - or have too many - and lack the time to cook them. But we cook, nonetheless.

To continue the cooking analogy, in *The Light We Carry*, Mrs. Obama goes on to share another of her powerful tools, her "kitchen table", or network of close friends and advisors from which she draws support, criticism, and broadens her views - an added, self-selected context of trusted advisors. Another First Lady, Hilary Clinton, invoked a related notion when she suggested, "It takes a village to raise a child". What she was talking about was the need for a broader context and broader network. More perspectives. While I greatly value the brotherhood and advice gleaned from my male friends and role models over the years, I'm experienced enough to know two smart women when I see them, and not too proud to heed their advice.

Contexts and Meanings

Consideration of surrounding forces now creates a multiverse of contexts for designers and builders to wrestle with. Each carries its own set of meanings, relationships and values. Here are just a few designers are familiar with:

Site Are we treading lightly enough? What might our building relate to? What should it? Are we part of the urban fabric, or will we contrast it as an iconic self-aggrandized monument?

Community Do they get a say in what happens? Who decides? Those with money?

Climate How do the local natural forces shape the building. Can we or should ignore or overcome them via of more mechanical systems and energy? If the building or its enterprise is profitable, does it matter? Or do the collective use scarce resources such as water and energy owe consideration to the global stock?

History How does our design solution we acknowledge the past?

Social Is our building a place where an elite few are allowed access? Or can it be a shared resource for the community it will become a part of? Who decides?

Economic Can we throw off the tyranny of foolish first-cost-based budgets in favor of long term total cost-benefit analysis?

Markets Do buildings serve or exist within markets? Which ones?

Aesthetic Does our building reflect, respect or reject its surroundings?

Desiderata

With so many frames of reference, how do we know where we are? How do we relate? How do we decide what to value and how assign weights to these oft-competing interests. The most sustainable solution might be to not design or build a new facility. Is there an existing one we can reuse? Are we willing to walk away from a commission or lose our job over the priorities we set and contexts we respect? Tough questions to be sure.

Pragmatism and Priorities

DI's annual theme of pragmatic design steers us to issues relating to matters of fact, practical affairs more than with what could or should be, often to the exclusion of intellectual or artistic matters. In this pursuit we are practical as opposed to idealistic. We deal in the realm of results and consequences. Due to our learned economic value systems, there is a tendency to want to work on highly elastic problems - those yielding results with low additional units of input or effort. But those may not always be the right factors to go after. Judgment and experience can help. So can casting a wider net for our teammates.

Range: Specialists, Misfits, Generalists and Stereotypes

In a world more technical and complex than ever, few of us possess all the necessary skills to do everything that needs to be done. In his book *Range: Why Generalists Triumph in a Specialized World*, author David Epstein extols the value of connective people. Despite the clear, growing need for experts and specialists, we still need connectors, translators and enablers. Too often, Epstein observes, due to specialization, we are “working concurrently in a series of parallel trenches.”

For as long ago as the Bauhaus's century-old movement toward the integration of arts, trades and machine production with craftsmanship, designers and makers have increasingly required more detailed knowledge about technical matters. Hence the growing demand for technical experts in the AEC industry, and the commensurate need for those who bring these “parallel trenching” specialists together to create “gesamkunstwerks”, or, total works of art, as Gropius and his Bauhaus group called them. Filling these varied roles gives rise to the need for “misfits.”



In a human-centered approach, not only does the research need to reflect the target, the team does, too

- Ella Hazard



In her courageous 4th quarter 2022 essay in *DesignIntelligence Quarterly* entitled *The Case For Misfits*, Ella Hazard, executive director of Arktura Ventures (an Armstrong company) shared her hypotheses:

“In a human-centered approach, not only does the research need to reflect the target, the team does, too.”

Ella Hazard's call for diversity rings true. Here's the question: who among us isn't a misfit? Are we not all different or flawed in some ways? For example, we desperately need the IT experts. In our former, non-PC days, we lovingly called them nerds, geeks, dweebs, and propeller heads. We stereotyped them as hoodie-and-sandal wearing, tattoo-bearing, Red Bull-drinking introverted youngsters. While we saw them as miscast outsiders,

we allowed them within our homogenous corporate cultures because we needed them. They were the magic wizards that kept our computers and networks humming – the very systems that held the power to make us smarter and more efficient. Now these former misfit stereotypes have not only become acceptable in corporate America, they've re-shaped it. Yes, we are all misfits.

Differences

In her new book, Michelle Obama reminds us of the opportunities within our reach. Paraphrasing, she frames the opportunity thus:

Our differences are our stories. They make us who we are. Whenever we can broaden the definition of being, we open the doors for more of us.

As humans and designers, expanding our range in this way just makes sense. In a world with so many contexts to consider, why wouldn't we want to have a bigger, better team to cope with them all?

A perennial challenge is to sort through the many contexts we are laboring in and using our peak levels of contextual awareness attune our thinking and emotions to the prevailing vibe. Do the differences we observe deserve to be recognized and celebrated, or in this context, suppressed? Nothing is worse than design teams who force their dogmas and biases on unsuspecting constituents because they are out of touch or tone deaf to what's important. Empathy, a key action verb in contextual awareness, is required.



Noise and Signal

In a logical, engineering sense, contextual awareness can be thought of in information theory terms as trying to extract or discern a “signal” out a sea of “noise.” But how do we decide what is noise and what is valuable information? Simple. We apply value judgments and apply conventions that build over time. In a parallel to gardening, how do we decide what is a weed and what is a beautiful, prized flower? We simply agree to value one more than the other. Both grow and are prevalent, but only one, we decide, will be retained. The other? We pull it, poison it with toxic chemicals, or let it be and curse it’s existence. So too, with design inputs.

Interpreting Inputs

An interesting thing happens as we try to interpret inputs. The stimuli we process rely on many contexts, past, present and future. What was said or done before has an impact. More difficult, what these influences might mean in the future has low certainty. Just ask the designers of the infamous Pruitt-Igoe housing complex in St. Louis. Fueled by hubristic modernist dogma in 1954, architect Minoru Yamasaki interpreted the context as needing his stark solution of 33, eleven-story high-rise towers to clean up the area’s urban blight. Decades later in the 1970’s, after seeing the social horrors, crime, vandalism, juvenile delinquency and bleak outcomes their designs had wrought, the project was demolished - a landmark example of contextual ignorance, an abject failure.

As with flowers and weeds - and urban renewal - it seems that meaning and value are in the eye of the beholder, and these meanings can - and do - change drastically over time.

Communication Icebergs

The phenomenon of how a design team can so dreadfully mis-read their context can be understood through the concept of a “communication iceberg”. In their 2022 book, *The Language Game: How Improvisation Created Language and Changed the World*, Morten Christiansen and Nick Chater, use the term to suggest, as in an iceberg, the visible tip above water may contain the overt words, phrases and sentences we believe convey meaning, but which pale in comparison to the larger hidden parts - the customs, norms, empathy and culture below the surface that ground these words and imbue them with deep meaning. Context readers beware: Look below the surface. Dive deep. Ask and listen to understand. As another caution, those of us who interpret contexts for a living must be acutely aware of the power of our biases and tendencies to chunk and oversimplify data. While necessary for survival in an information-rich world, these skills can be harmful when misdirected.

Conversations, Games and Dances

Beyond mere awareness, it’s our absorption and reactions to the inputs that matter. Understanding of any context requires not just immersion, but an active two-way collaboration and conversation, one in which the unspoken aspects may be just as important as the surface data. Communication is an interaction or “game” in which the parties must try to read one another’s minds to understand the context. Like the game of charades, the unspoken is key and data compression is essential, as is the creativity and inventiveness of the players.

In such “games”, not unlike improv’s classic “yes, and” rule, participants must accept and build upon one another’s words, beliefs and data - until disproven. This “takes-two-to-tango

dance” is a far cry from a singular expert who single-handedly decides which information to keep and which to dispose of. Just like language’s essential self-organizing forces, each judgment and interpretation is an individual decision shaped by shared experience. These skills transcend awareness.

“Keep Your Head on a Swivel”

Is the “head-on-a-swivel” metaphor a useful device? Comical or emblematic? A sign of bewilderment for a profession spun in circles and dizzied by so many decisions and contexts? Or is it a helpful positive reminder -- the “new normal” for responsible design professionals: our need to constantly survey the premises and look beyond the horizon to assimilate and react to the many contexts that surround us?

As we continue our connected pursuit of design solutions amid myriad contexts, let’s remember this: We are all misfits. We are all connected. And we operate in many settings. To get through it, we’ll need to come together and be more aware of where we are in the world and how we should relate to these forces. And we’ll need to get smarter and better at looking in all directions and using systems thinking and rigorous decision making to respond to what we see.

Let’s keep looking. Swivel-heads unite!



We are now connected in ways we never have been before. To exist, survive, and effect positive change we must be ever vigilant and sensitive to our surroundings, and we need new modes of decision-making to accommodate our many contexts and connections



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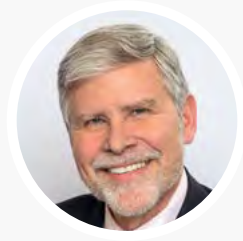


PUTTING CONTEXT IN CONTEXT

PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Putting Context in Context

Scott Simpson, FAIA

Senior Fellow, Design Futures Council

Scott Simpson examines the situation of buildings and its synergistic effects.

Here's a familiar image: the Great Pyramid of Giza, anchored in a sea of sand, baking under the fierce Egyptian sun, with a camel or two parked nearby to provide the appropriate sense of scale, making its huge mass seem even bigger. The pyramid is devoid of decoration; it just sits there in silent dialogue with the surrounding desert. It seems to tell a story by saying nothing at all.

Now imagine that same pyramid transported to downtown Des Moines, surrounded by a parking lot, or to Angkor Wat, strangled by jungle vines. It just wouldn't have the same import or impact. The lesson is clear: Context matters. It establishes our frame of reference and governs our perceptions. Context is what makes content come alive and is much more powerful than we realize.

Another good example is Harvard Yard, which is more space than place. The Yard contains a few trees and benches, is animated by pedestrians and is punctuated by the occasional statue, but it is brought to life by the red brick dormitories that define its perimeter. The buildings themselves, while handsome and well-proportioned, are fairly ordinary. In fact, it's this lack of architectural distinction that gives Harvard Yard its unique character. This character is more a feeling than a location, a feeling both created and enhanced by its context.

How does context shape design thinking? We often take it for granted and are simply unaware of what's going on around us, like the fish in an aquarium who do not realize they are wet. We don't think much about the air we breathe or the background noise that provides the soundtrack for our daily lives, but the power of context is real. It gives us silent instructions about where to go, how to get there, how to behave once we arrive and even what to think. If you doubt this, just ponder the different ways people behave in supermarkets, churches or football stadiums. We do things in one place we would never dream of doing in another, as if responding to an invisible instruction manual.

Good designers understand this mysterious phenomenon. When a new structure is built, it has an obvious impact on its site, neighboring buildings, vehicular circulation and pedestrian patterns, and so forth. Creating a new building is like placing a large rock in a stream bed: It irrevocably reroutes the current, affecting everything downstream.

Context is not limited to the physical environment. It also has political, economic, social, educational and health-related dimensions. Depending upon the context, our choices about

what to build, how to build and what materials to use will vary widely, if only we are paying proper attention.

Good design is both passive and active: It responds to context while simultaneously creating a new context of its own. This is where the power of design is made manifest. A new office building will serve as a point of reference in a city, and if it's exceedingly well designed, it might even become a landmark. But its bigger effect is on the many people who use that building every day. The building's circulation system will determine who goes where and, if it's well done, will serve to maximize the serendipitous interactions that make city life so interesting. Its fenestration will channel the occupants' views, and its mechanical systems will create the ecosystem of air quality and thermal comfort that influence the health of the occupants. If the interior spaces are thoughtfully arranged, they will enhance overall workplace productivity, either by providing privacy where warranted or space for robust team interactions. The building will provide employment to hundreds, if not thousands, of workers, all of whom pay taxes that help support city schools and other agencies. Thus, the new building is more than a static object; it is an active participant in helping to shape the life of the city.



As the world is increasingly challenged by the prospect of climate change, appreciation for the power of context is more important than ever. This opens amazing new opportunities for the design community to play an influential role. Design is not limited to creating static objects called buildings; it extends to all aspects of how people engage with the built environment and with each other. It's just a matter of context.



Good design is both passive and active: It responds to context while simultaneously creating a new context of its own. This is where the power of design is made manifest.



Scott Simpson, FAIA, is a regular contributor to DesignIntelligence.



LEAVING WELL ENOUGH ALONE

PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Leaving Well Enough Alone

Paul Hyett

PPRIBA, Hon FAIA
Founding Principal of Vickery-Hyett in the U.K.

Paul Hyett examines contexts and agendas in UK housing.

Two Contexts

Context is everything for architecture, and two kinds of “contextual” agendas shape its progress.

The first is the corporeal context – i.e., the physical, the tangible and the palpable, that which exists at the outset. Think of it as the “landscape,” the materials and the technologies within which, and from which, we shape our work. Whether urban or rural, no architecture of worth can but respond to its corporeal context.

The second is the incorporeal context – that which has no material structure or existence. Here lie the common yet dynamic customs and values that combine to provide the culture and quotidian backdrop of the citizens’ lives.

I want to focus herein on the extraordinary impact this latter, essentially cerebral, form of contextual awareness can have on domestic architectural work during its conception and thereafter in the minds of residents as they reshape such buildings in response to their current needs and ambitions.

Come the Modern

Take the sketch below:

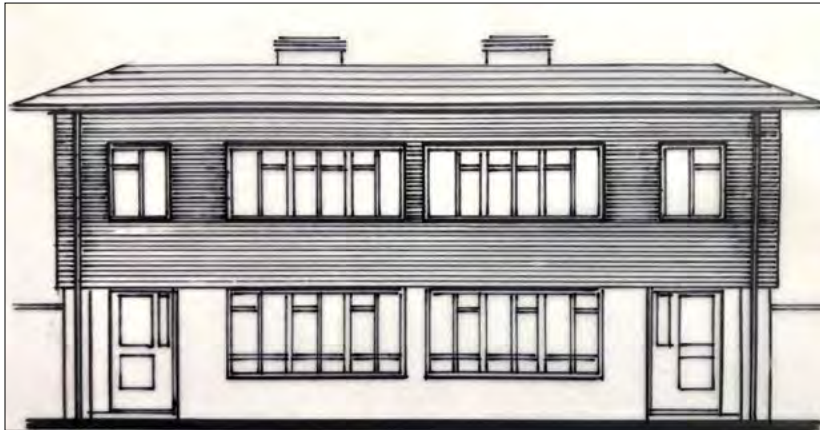


Image 1: Sir Frederick Gibberd's British Iron and Steel Federation prefabricated house, author sketch, source: <https://nonstandardhouse.com/the-british-iron-steel-federation-bisf-house/>

I see this design as breathtakingly and unequivocally modern. To my mind, it should be preserved (rather than defiled) as a symbol of both hope and confidence in technology to create a brighter, cleaner, healthier and happier tomorrow. That was, after all, the prevailing incorporeal context in which such work was originally developed and delivered: A nation recovering from seven long, hard years of war believed in such a future.

Designed by Frederick Gibberd, this pair of semidetached houses was one of a series of projects commissioned by the British government during the Second World War in anticipation of

the extensive repair work that would be required to our heavily bombed cities. But there was also a bigger agenda: The Homes for Heroes campaign at the end of World War I had offered much in the way of progress, but the New Jerusalem movement of the '40s was concurrently demanding still more for a population that had suffered and given so much to the war effort.

The corporeal reality was all too stark: Slums comprising mile upon square mile of high-density Victorian housing – many with no internal toilets – were to be cleared and replaced. Particularly obscene to the liberal philanthropists who led the campaign were those comprising back-to-back housing, with only communal sanitation at the street ends. They all had to go, and amongst many such initiatives, Gibberd would work with the British Iron and Steel Federation (BISF) to create the BISF House, a revolutionary form of construction that proposed to repurpose those factories hitherto dedicated to the supply of military planes, vehicles and ammunition towards peaceful production.

So, out with old-fashioned, load-bearing brickwork and traditional on-site construction techniques, all part of a building typology associated with damp conditions, death in childbirth, high rates of infant mortality, disease and tuberculosis, and in with efficient, steel-framed, modern system building as epitomised by Gibberd's new model homes and sophisticated factory manufacturing processes.

One of the most important aspects of this new housing would be its form of tenure. Local authorities, who had intervened to provide the new and better housing of the pre- and post-World War I building programmes, would be invited (and funded by central government), to up their games and offers: As part of a new social contract, low-rent housing would be maintained by the authorities to the highest of standards.

The reciprocal obligations of the deal were simple: Families would pay their rents, keep the properties clean and the gardens tidy, whilst the council would ensure the structure and external fabric were kept in good decorative repair. For several decades, this all worked well. Tenants acknowledged that their homes were but a small part of estates that would remain of uniform character: collections of terraced and semi-detached houses assembled into larger compositions of consistent architectural integrity. In turn, such consistency relied upon the occupants' acceptance that the outsides of their homes would remain unchanged.

I grew up in one such home, and my parents weren't even allowed to repaint the front door.

Cultural and Social Contracts

So, there we have it: Residents were fully cognisant of, and submissive to, the fact that within the corporeal context there was an inevitable enduring "sameness" to their homes. This was the norm. What else would anyone expect? The underlying assumption was: Why should such homes, as part of an estate comprising hundreds of other family dwellings, have anything but a constancy of character?

Which takes us to the evolving incorporeal context — that is, those cultural characteristics manifest in the abstract identity of a community. The so-called social contract of the post-World War II era would be challenged in the '80s with the arrival of the Thatcher governments. Community values and expectations would consequently change in a way that would have profound and, in my view, extremely damaging impact on these brave new architectures of the post-WWII era.

The mechanism of change would be the subsidised "right to buy" programmes. These were based on a powerful new central government ideology that would force local authorities to sell their housing stock to those tenants wishing to buy. So ideologically committed were the political leaders to this agenda they promoted a systematic, covert campaign to discredit municipal housing: Step by grim step, it came to be perceived as a provision for the unfortunate and the needy within the community. Dignity and renting from the council would become mutually incompatible.

With this came the destruction of that incorporeal contextual awareness and respect that had so effectively preserved and protected the new architectures of municipal housing, specifically tenants who had proudly identified themselves with a status of being part of a manifest community whose character was as much incorporeal as it was corporeal.

Under Mrs. Thatcher, everything that could be sold was sold, and tenants were encouraged to buy their homes at knock-down prices. Which is what they did. The result? Of some 5 million council homes that existed in Britain by 1980, following a building boom that had seen an average of 126,000 homes built annually since 1945, some 1,700,000 (34%) would be sold by 1997. And they have gone on selling them ever since.

Here's the point: This policy has had the most astonishing and profound consequences and impact on our population in the incorporeal territory of its individual and collective character. Through that process, it has also deeply affected the corporeal character of the built fabric within which they now live.

Inappropriate Interventions

The images below illustrate the issues. Image 1 displays typical municipally built and rented properties presale, all well-maintained under state ownership in a manner that preserves the overall design integrity of the estate.

Images 2 and 3 were taken by me during a recent tour of a post-war estate at Debden, northeast London:

I don't question the ambition, intention or pride manifest in the work some of the new owners have carried out whilst personalising these properties, but their disregard for any obligation or contribution to the character of the whole is extraordinary, if not shocking.

It gets worse, as the photographs below show. Clearly, one of the finest post-World War I estates in west London, the Old Oak Estate, has also been a victim of the "right to buy" policy. I quote from a recent article I wrote for World Architecture Foundation magazine:

"It seems that an awful pox has enveloped large parts of the housing stock of our nation. Across the entire land, be it large city or small town, older Victorian stock, or the newer housing estates of the early and middle 20th century, that pox is everywhere to be seen. Indeed, barely a street has been spared."

"Much of this takes the form of additions, be they new front porches, side additions, or the mutilation of roof lines to accommodate attic extensions. But window and front door replacements; new facias, soffits, gutters and downpipes; new plastic weatherboarding; and the frequent introduction of stone cladding, pebble-dash renders, or simply paint to what were originally traditional brick facades have also taken their toll and added to the visual dross that now surrounds us. And all that takes no count of the stripping away of finials and ridge tiles, the cheap and nasty plastic car-ports, the damage to fences, gateways, hedges and the like, or the sacrifice of front gardens to car parking."



Image 2, 3: Debden housing, author photos



“Tragically, much of this havoc has been wreaked on some of the finest housing stock in existence. For example, at the Old Oak Estate in Hammersmith which has been described as the ‘culminating achievement of the (London County) Council’s venture into garden suburb planning before the first world war.”

“The two photographs below, both contemporary and taken on the same day, well illustrate the point. Showing adjacent quadrangles of housing set back off Mellitus Street, the first shows the properties mercifully relatively intact in terms of appearance. Only the base of the gable wall adjoining the street pavement has been ‘damaged’ through the addition of red paint to the brickwork.”



Image 4: Mellitus Street quadrangle with architectural integrity preserved, author photo

“The second photograph tells an entirely different story: a virtually identical architectural composition, the end property has been rendered, thus concealing its fine brickwork, and the third and fourth properties have been respectively rendered, painted, and clad in imitation stone.”

“And it does not stop there! Apart from being replaced with plastic windows, the window openings, and thus their proportions, have been re-configured to the end house, the transom and mullion arrangements have been varied, and a crude array of drainage pipes have been added. All in all, the architectural homogeneity of the original composition has been so heavily compromised that it is all but lost.”



Image 5: Mellitus Street adjoining quadrangle with architectural integrity seriously undermined as a consequence of the “right to buy” programme, author photo.

The conclusion to all this is tragic. Somehow, against an ever-growing emphasis on individualism and self-expression, and against several decades of the British state shunning its responsibility to provide and maintain well-designed homes as part of our national infrastructure, extraordinary damage to the corporeal fabric – and to the incorporeal culture of our communities – has taken place.

And it has all gone virtually unnoticed.

Sad indeed.



Extraordinary damage to the corporeal fabric – and to the incorporeal culture of our communities – has taken place.



Paul Hyett is the founder of Vickery Hyett Architects, past president of the RIBA and a regular contributor to DesignIntelligence.



OUT OF CONTEXT

PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Out of Context

Paul Finch

Programme Director, World Architecture Festival

Letters from London:

Paul Finch considers the relationships of buildings, the history of change and the focus of the World Architecture Festival's WAFX Awards programme.

"You have taken that quote out of context."

is the politician's frequent complaint as they try to explain why they said a certain thing or used a certain phrase. Sometimes with good cause, sometimes not.

The same might be said of certain sorts of architectural criticism, especially that which stems from an extreme conservationist or historicist point of view. Such criticism will focus on the immediate and the local in relation to buildings and structures which happen to have survived, rather than longer histories of site, neighbourhood and, indeed, city. All with a neophobic attitude that assumes nothing has improved since the 18th century (dentistry excluded).

As a result, some quarters produce an inevitable demand for developments which are "contextual." At its worst interpretation, this means "just like the one next door" and is a certain recipe for creative ennui and failed replicants. Preferable is the phrase used in respect of new buildings designed in Miami's Art Deco district: They should be "similar but not the same," we are told.

That seems a reasonable proposition for such a distinctive part of the city, but it is not a phrase – or design formula – that can be adopted everywhere. Take the example of tall buildings. In some cities – New York or Chicago, for example – they are so familiar that they constitute the idea of “traditional” buildings. In other places, particularly rural areas, urban-scale towers would seem utterly incongruous, though a folly could be entirely acceptable. Not because it has immediate neighbours of the same scale, but because that form of architecture has a history which makes an addition automatically contextual – the addition by itself is another form of context.

Even in cities, there may be areas where extreme height is eschewed – for example, in Washington, D.C., or suburbs with a distinctive low-rise character which residents may wish to preserve, even when extending. But discussions about housing density rapidly turn into battles over appropriateness. Often as not, the issue is local context. But what about the historical context of city-building over thousands of years? Is there not a city context for tall buildings and high-density living which predates the spread of low-rise suburbs in the 20th century and today? Are those anonymous-looking new towns in China, which are being developed on a U.S. rather than a European model, examples of ignoring the historical context of the walled Chinese city?

Today’s global concerns around climate change, food and water shortages, and potential future pandemics have provided a new set of contexts which leading architects and designers are responding to, in the process of changing the ways in which we live, work and play. At the same time, they are changing the contexts for a planetary population set to double over the next 40 years.



Thinking about key factors that will affect the ways in which architects, engineers and allied professionals will design our futures resulted in a programme at the World Architecture Festival called the WAFX Awards (the X is because they were launched to mark our 10th annual festival in 2017). These awards cover multiple contexts. Some award categories are about the physical world (carbon and climate, food and water), while others focus on sociological circumstances which inform client and user desires (power and justice, social equity, ageing and health). Other categories look at the methods in which we design and construct (building technology), smart cities, and the ways in which we can acknowledge both history and carbon issues (retrofit and creative reuse).

This WAFX Awards programme is for future projects only and can include theoretical and experimental ideas which may challenge or transform existing conditions. Self-sustaining structures, new methods of agricultural production and ways of repairing the physical and psychological impacts of colonialism are all welcome at this awards table.

In short, there is a strong case for challenging existing contexts, rather than taking them as either essential or immutable. We need more and better housing, more responsive approaches to energy production, greater attention to promotion of the natural environment (not least within buildings themselves). We need more environments that stimulate, enable and promote the talents, often latent, within our populations.

Does this automatically mean the abandonment of “tradition”? No, but challenges to tradition are as old as tradition itself. You make a change because a change is needed, and if this results in a change of context for the future, so be it.



There is a strong case for challenging existing contexts, rather than taking them as either essential or immutable.



Paul Finch is the programme director of the World Architecture Festival and a regular contributor to DesignIntelligence.



ELEVATING COMMUNITY MENTAL HEALTH

PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Elevating Community Mental Health

Stephen Parker

Behavioral & Mental Health Planner, Stantec

Stantec's Stephen Parker discusses contexts of care.

When designing for humanity at its most vulnerable, those with the greatest interest in addressing mental health are often closest to its cause.

One degree of separation can be all that divides us from close friends and family struggling with mental health, addiction or both. As the child of a parent admitted to a behavioral health facility, this hits close to home. My namesake is a family member who lost his life to addiction. My godfather is a Vietnam veteran whose invisible war wounds resulted in extended stays with our family to help him get back on his feet. My graduate thesis in wounded warrior polytrauma care was informed by friends' challenges returning from serving abroad.

Their stories of traumatic brain injuries and post-traumatic stress disorder (PTSD) gave purpose to my design research. This sense of purpose has driven my practice ever since. Once you truly understand that an individual's crisis ripples outward into the lives of loved ones in unexpected and devastating ways, becoming an advocate for communities suffering in silence defines your design ideology and approach.

Systemic Challenges

As behavioral health planners, architects and designers, we would ideally position ourselves before clients with aspirations, not angst. Unfortunately, this is not always the case with mental health environments. Overburdened emergency departments (EDs), shortages of mental health beds and burnout of behavioral health staff all play a part. Every mental health provider we talk with hopes that patients never have to walk through their doors. Too often, we are called in to perform a facility

risk assessment after a patient has tragically attempted to harm themselves or others. Such crises require us to design solutions to mitigate future tragedies. The most insightful design solutions for these community mental health facilities come when we collaborate empathetically with providers and their patients.

Contending with the deeply systemic challenges around mental health in North America brings to light many overlapping causes and effects that present themselves in each community differently. The increased societal awareness of mental well-being during the pandemic is the thinnest of silver linings. But this awareness is turning into action and is producing increased resources to turn the tide. Coupled with a wave of new funding and legislation, this sea change in thinking around mental health at the community level has accelerated development of new service models and facilities. This is especially true for the cultural contexts of communities, each requiring unique design solutions.

It is also why advocating for mental health through design has become more important. We are now elevating this discourse above the societal stigma associated with mental illness. This design advocacy is being codified by a few tenets coalesced around the notion of a boundaryless Behavioral Health Practice here at Stantec.

Dignity-Driven

As an overarching ethos to our boundaryless Behavioral Health Practice, dignity permeates all aspects of our design process. Acknowledging this need and our responsibility to provide for it helps planners, designers and engineers understand their roles in the continuum of care.

As a marked departure from the institutionalized settings of the past to more therapeutic healing environments, dignity is a concept that shapes a psychiatric facility's "care culture." Result-

ing design responses can foster cultures of safety, security and serenity for those in crisis, for visiting family or friends, and can support and lift up overburdened staff. Staff are safest when they know their patients and patients know them. Visitors are most comforted when spaces reflect the value of the relationships they seek to sustain with patients. Staff retention requires respite spaces with equal access to nature, sunlight and amenities that help them rest and recharge.

To promote staff safety, visitor comfort and patient recovery, the best therapeutic environments safely invite meaningful rapport and engagement between stakeholders. From socialization by choice to diverse therapy models, the built environment works better when the aspirational relationships between provider and patient are present throughout the design process and are embedded into the spaces. From addiction treatment centers that foster rehabilitation, to autism clinics that teach children how to navigate different sensory experiences, to behavioral health hospitals that use the built environment as a tool for self-regulation, design can promote dignity from form to finish. Thoughtful approaches to details and informed decisions can destigmatize by design.

A dignity-driven design approach seeks to humanize mental health environments for patients. It can also harmonize staff safety and enhance the comfort of visiting family and friends for the communities we serve. Through this lens we can better define our practice – a practice with purpose that advocates through design. Given the limited number of dedicated mental health designers in the field, it is important that we democratize mental health design strategies in the profession.

These values and foundational design ideas are best expressed through two project examples that address specific communities and their unique needs.



Veteran Mental Health: Winter Garden
Photo courtesy: Stantec

“Crossing the Rubicon”: VAMC Puget Sound’s New Mental Health & Research Building

Seventeen. This stark statistic is the number of veterans that commit suicide each day on average, per the U.S. Veterans Administration’s (VA) own data. Recognizing and responding to the invisible wounds of war takes sustained comprehensive steps.

Sometimes the first of those steps can be the hardest. In Roman lore, crossing the Rubicon was seen as a significant step, a point of no return. This concept, “crossing the Rubicon,” was used as a defining inflection point for veterans seeking mental health services at the VAMC Puget Sound’s new Mental Health & Research Building. While it may be the hardest, this first step can be the most meaningful.

This new 220,000 square-foot facility strives to make that first step a little easier. In addition to providing valuable mental health and addiction services to a previously underserved community, the facility contains research labs in which scientists and medical professionals can learn more about how to better treat veterans.

The project’s building program includes outpatient services for homeless reintegration, addiction treatment, patient education and counseling, therapies and mental health services across the spectrum of care.

As the VA’s newest and largest dedicated mental health outpatient center, the building strives to adapt to diverse patient populations and programs. From its front “Main Street” that organizes front of house access for veterans to secure corridors that allow after-hours operations, the building adapts to user needs. After work or school programs available via an extended-access model can occur without the need for extra staff given the project’s thoughtful and discrete entrances and perimeter

arrangements. Certain veteran populations, such as those seeking opiate substitute treatment, have dedicated entrances to cater to their specific needs.

Based in the frequently overcast Pacific Northwest, the VAMC Puget Sound Mental Health & Research Building is organized around interior courtyards, exterior patios and internal gardens. These provide ample natural light throughout the building. This generous access to outdoor spaces, nature and social spaces throughout the building allows patients, providers and visitors to socialize or self-reflect as a matter of choice. Choice reinforces dignity by design and allows patients to decompress between group therapy or one-on-one consults. Providers can find respite areas to reset in dedicated outdoor spaces – more important than ever given the strains of high-touch mental health care services. Visitors and veterans alike can enjoy the stunning views of Puget Sound, which overlook Seattle and beyond. Evidence-based design principles teach that nature plays a key role in reducing stress, aid in healing and significantly shorten patient healing time.

In these ways, the VAMC Puget Sound Mental Health & Research Building is as adaptable and uplifting a design as are the patients' stories of courage and recovery.

The Youth Crisis Stabilization Project

A staggering one-half of all emergency department visits for youth are mental health or addiction related.

Demand for crisis stabilization services is surging across communities in North America, especially regarding our youth. The second leading cause of death for young people is suicide. Stress and anxiety brought on by the pandemic, job loss, substance abuse and world events continue to impact people in profound and adverse ways. Emergency departments are crowded and ill-equipped to treat this vulnerable patient population segment. It is not uncommon to hear that a patient spent days in a small, 10' x 10' secure holding room with no access to daylight or nature. These inhumane, lackluster conditions only exacerbate individuals in crisis. Delayed treatment is further traumatizing.



Youth Crisis Stabilization: (Left) Outdoor courtyard rendering and (Right) interior living room milieu
Photo courtesy: Stantec

Thankfully, health systems and public policymakers are responding to these trends. Government funding for treatment programs and medical research has increased in recent years, with billions allocated for such organizations as the Substance Abuse and Mental Health Services Administration (SAMHSA). This has resulted in greater capital investment in behavioral health facilities by health systems nationwide. Even privately funded systems are investing deeply in the unique typology of crisis stabilization.

Since the mid-aughts, the “Alameda model” – which diverts mental health patients in crisis from overburdened emergency departments or ill-equipped law enforcement settings – has been deployed at various states across the country. This model has been further enhanced in recent years with the implementation of the EmPATH concept (emergency psychiatric assessment, treatment and healing). It creates something of a sub-typology that sits between the emergency departments and inpatient mental health services called crisis stabilization. By diverting medically stable patients in crisis, these high-functioning crisis stabilization centers can eliminate ED boarding as well as increase access to care while decreasing wait times, resulting in fewer inpatient admissions (up to 75%, per SAMHSA) while decreasing health costs overall. For the hardest hit rural and

urban communities with the fewest resources, these crisis stabilization centers can be tailored to specific patient populations, such as youth or communities in the grips of the opioid addiction crisis.

In this regard, Stantec is on the forefront of designing behavioral and mental health facilities that overcome stigmas and challenge barriers to treatment and common socioeconomic factors such as poverty. We are currently prototyping a multistate crisis stabilization system designed with these ideals in mind for a specialty behavioral health provider. The increasing demand for patient-centered, cost-effective, empathetic care drives our behavioral health research and practice today.

This Youth Crisis Stabilization project is one such example for a client that gives patients choice in crafting their sensory environment. By giving patients control over full-spectrum lighting and other stimuli that can aid in self-regulation, patients are granted greater agency in their recovery process. An open observation area or “living room” allows patients to benefit from a therapeutic, social milieu that can aid in rapid assessment and recovery planning. Recent Facilities Guidelines Institute standards for behavioral health crisis units reflect this growing trend in the continuum of care.



Advocating Through Design: A Purpose for Us All

Our designers have been applying evidenced-based behavioral health practices that lead to better patient outcomes and shorter stay lengths for a range of community contexts. We believe design can support best practice medicine and help patients in crisis by creating calming environments that focus on de-escalation, not retraumatization. We employ dignity-driven, trauma-informed design principles that integrate experiential sensory considerations to create empathetic spaces for patients with a sense of dignity, respect, autonomy, safety and a connection to their community.

These are just a few examples of how we are crafting unique community solutions by consistently applying our design values and raising awareness of cultural contexts while elevating community needs and advocating for mental health through design. This builds upon our drive to craft a practice with purpose. A purpose we can all advocate for.

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[Emergency psychiatric assessment, treatment, and healing \(EM-PATH\) unit decreases hospital admission for patients presenting with suicidal ideation in rural America - PubMed \(nih.gov\)](https://pubmed.ncbi.nlm.nih.gov/)



The most insightful design solutions for these community mental health facilities come when we collaborate empathetically with providers and their patients.



Stephen Parker, AIA NCARB LEED AP ULI, is a behavioral health planner and architect with Stantec based in Washington, D.C. Designing mental health projects from the Arctic to Africa, Stephen is a proponent of “architect as advocate,” elevating mental health through design. He served as the youngest architect elected to the AIA Strategic Council and co-convener of the AIA Mental Health + Architecture Incubator. With recognition from organizations such as the AIA, Healthcare Facilities Symposium, NextCity, Fast Company Magazine, Healthcare Design Magazine & Engineering News-Record, Stephen is a collaborative researcher and accomplished designer. He serves as an associate director for the Design in Mental Health Network in the U.K., design chair for the DC Building Industry Association, a member of the ULI Health Leaders Network and a U.S. representative to the International Union of Architects’ Public Health Group. In his personal time, Stephen can be found building a three-generation home with his wife, Carrie, or volunteering abroad, most recently in Kenya and India as a medical planner, designing hospitals for local NGOs.

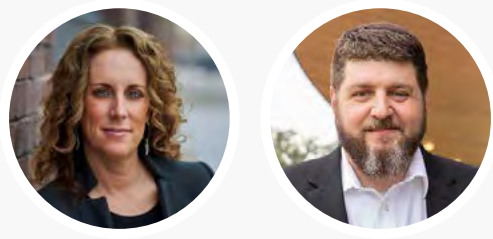
HEADS UP. EYES OUT.
MINDS OPEN.



PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Heads Up. Eyes Out. Minds Open.

Danielle Hermann

Principal, OPN Architects

Justin Bishop

Principal, OPN Architects

How OPN is transforming their firm through contextual awareness, strategic planning and an action focus.

Forty-one years is one heck of a run. As one of the Midwest's most successful firms over a four-decade span, things were pretty good at OPN. We had done great work, been profitable and developed countless wonderful colleague, partner and client relationships over that time. So why change?

For starters, we wondered if we had put the right structure in place to support a legacy firm for future generations. We questioned whether we could continue to fill the pipeline by generating the same number of business development wins. But it was hard to argue with success.

In 2019, for the first time in our history, our then 41-year-old firm decided to embark on the creation of a strategic plan. We were immediately confronted with COVID-19. A pause seemed in order. Soon, we renewed our focus on finding an experienced partner to team with us in the strategic planning effort. DesignIntelligence was chosen from a handful of candidates, and we began.

Context: Values-Based Vision

Our journey began with a series of interviews. What were our values as a firm? What made us who we were, as individuals and a collective. In times of trouble, we returned to the values and

people we held dearly and gave us our “why.” Through a series of facilitated sessions, we used a values-based approach to add external focus. Sure, things were fine within the firm, but what about external factors outside our control? The more we looked into the future, we learned to listen to what it was telling us. Competition and encroachment were increasing. Our clients were changing; what had constituted value to them was changing as well. As we looked to and beyond the horizon to develop our response to the future, we saw a dramatically changing landscape, one filled with environmental, economic, social and human crises that need our attention. A bold new vision resulted:

“We embrace our responsibility to care for each other and our planet through extraordinary design and a boundary-free practice.”

The broad reach of this vision was not only inspiring, it also activated the potential to think and practice in more connected ways. The responsibility for caring for people and the planet and doing so in heretofore unthinkable and integrated ways (e.g., boundary-free) was liberating. Going forward, having learned lessons around remote work during the pandemic, what would constitute an office? In one bold stroke we built on a prior strength – our Midwestern, Iowa-based heritage – while reframing it to focus on a forward-looking approach. We could now work anywhere and with anyone. Why not? We could recruit and attract talent from anywhere. But could we?



Images courtesy OPN



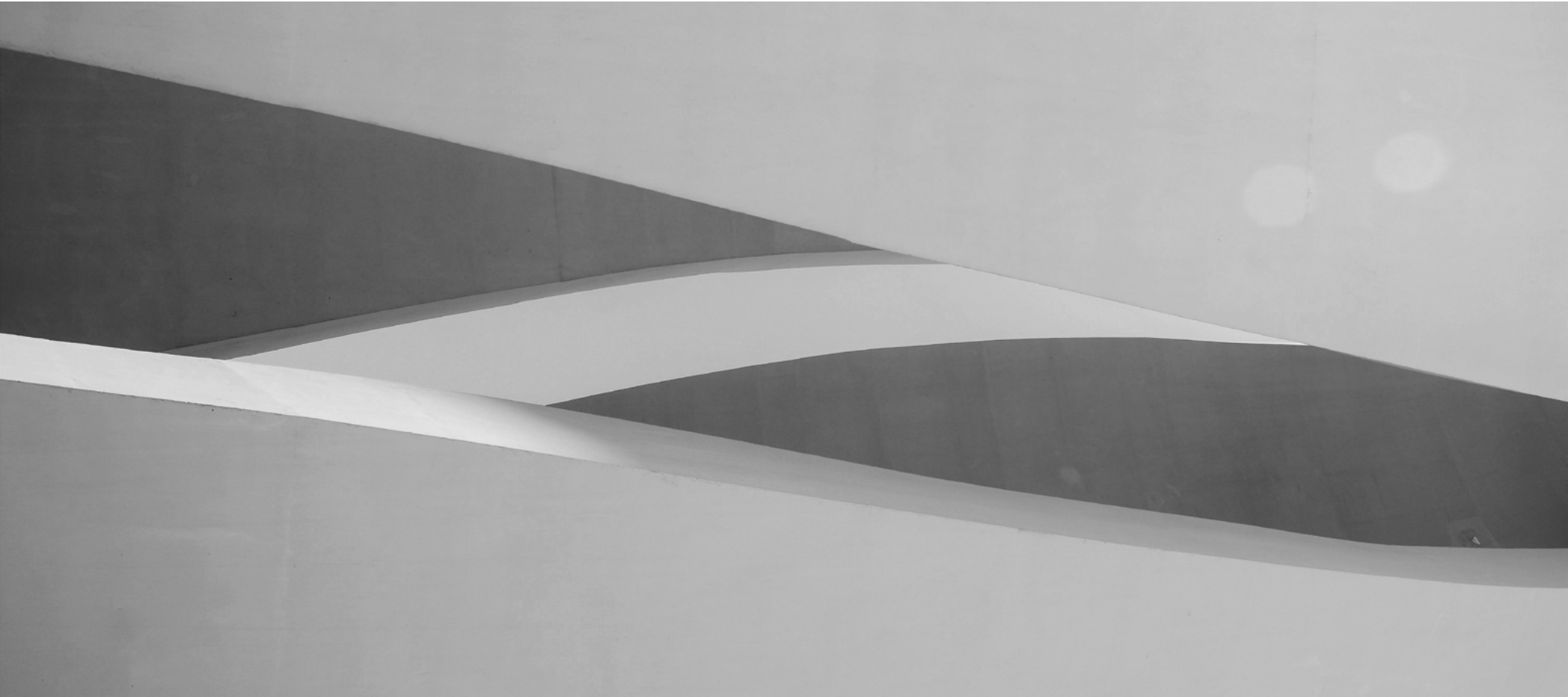
Implementing the Vision

As a firm that “gets things done,” we have always prided ourselves on our action focus. In response, and as a result of our new vision and strategic plan, 20 strategic initiatives were identified, prioritized, phased and implemented in four waves.

To share an understanding of some of these initiatives, here are just a few major areas in which OPN is using heightened contextual awareness and our new strategic plan to achieve greater results:

Vision Messaging

As soon as it was completed, we began a dedicated campaign to share our new vision with all firm members in all locations. Through a series of interactive conversations, breakout discussions, town hall meetings, firm retreats and road shows, we successfully shared the story and generated consensus to help colleagues understand and buy in to our new direction. Each was given a chance to ask questions and develop a sense of where they fit in the firm’s future. Returning to large group formats after active engagement, a renewed firmwide vigor was the byproduct.



Talent & Recruiting

Another immediate action of our new strategic plan was to triple our recruiting team from a handful of key people to more than 20. We saw the clear need to grow and develop relationships with a broader set of talent pools, universities and geographic regions. As a result, we:

- Expanded from visiting four to 16 schools.
- Hired 13 summer interns, with more pending.
- Added 16 new full-time hires representing 11 different universities.
- Added diversity while attracting new teammates who add to our culture with diverse new perspectives and thinking modes.
- Deployed updated video, branding and firm information tools in our recruiting process.

Beyond the above actions, we added significantly more structure and information to our recruiting process, including training every person involved. By bringing clarity to our candidate evaluation criteria, we increased the diversity of candidates interviewing. We also added meaningful candidate tour experiences in our studio locations that enlisted even MORE people in our studios to participate. Tours include OPN designed buildings and downtown city tours, as well as peer-to-peer panels in our studios where candidates were able to sit with four or five recent graduates on their own to have open, honest conversations about their experiences starting their careers at OPN, onboarding, living in our communities and more. Last, by sharing relevant and specific information on our communities, housing options and other local tips, we helped candidates be better informed as they contemplated their career, firm choice and relocation decisions.



Looking outward changed our world. Imagine what it could do for yours. It begins by looking, listening and knowing who you are. It succeeds through values, leadership and strong culture.



Design Excellence

In line with our new vision, we are developing an updated process for creating and ensuring design excellence through use of client-specific engagement, community context and an integration of design and performance for all projects. As a result of doubling down on our existing design excellence program we have added more reviews, grown our team and are expanding our impact. We've also begun benchmarking other outstanding firms and continue to build on our already established processes of peer reviews and inviting nationally known speakers to our yearly retreats (our track record of selecting AIA Gold Medalists the year before they're awarded still holds!). We're building on these relationships nationally and are participating in more awards juries while broadening our own base of design awards and publications, including recent national coverage.

Technology, Innovation & Digital Practice

Our innovation efforts can be categorized into several key practice aspects: BIM/production, operations, design excellence, fabrication/construction and building performance/sustainability, with the following implementation areas:

- Our strategic plan is guiding us in consolidating our existing IT and BIM teams into a digital practice group by seamlessly integrating our burgeoning innovation team.
- Staff across all studios are finding their passion and charting their future careers with new self-created, technology-focused career paths.
- Select summer interns are purposefully hired to be dedicated to innovation and focus on special project goals.
- Per the vision, we have enabled boundary-free teams with technology, collaboration and engagement platforms and a

renewed focus on building a culture of innovation. Highlights include learning and exploration through recurring training, an innovation workshop series, a digital fabrication design competition and design discussion groups in each studio.

- We are looking forward to our first annual hack-a-thon and are building strategic partnerships with digital fabrication vendors, innovative peers through Design Futures Council connections and academic program partners.
- We have advanced our hardware and software explorations in 3D capture, XR visualization, mobile/on-site surveys, scripting and process improvements, generative design and high-performance analysis design tools.

In all, OPN is investing in the future with a budget to fail forward and contribute to the global digitization of the AEC industry.

Organizational Structure

A direct outgrowth of the strategic plan was our rapid development of a simple organizational structure, a tool that replaced our prior, intentionally flat structure. We take great pride in the collegial nature of the partnership and conscious lack of corporate bureaucracy. Our motivation for doing this was simple: We realigned decision-making with a renewed clarity of roles and skill sets that heightened the efficacy of our business processes and established clearer, more transparent pathways for growth within the company. Never again would we have to engage in a meeting of 10-plus partners to resolve the issue of whether to buy a new copy machine for the office!

By themselves, each of these initiatives is already making significant differences in the firm's culture, practice and impact. Together, they are the beginning of nothing less than the transformation of our firm. The momentum we generated by creating

a new strategic plan has provided us with a framework – an organizational tool – to ensure we can be intentional in our actions, not reactive. Seen as a strength by potential job candidates as well by the entire firm membership, our consistent, persistent rolling out of one major initiative each quarter has helped us achieve deep, meaningful, lasting change in lieu of a greater number of shallower actions.

Looking outward changed our world. Imagine what it could do for yours. It begins by looking, listening and knowing who you are. It succeeds through values, leadership and strong culture.

Take a look at the bigger picture, you might like what you see.

Ferris Bueller said it best:

“Life moves pretty fast. If you don’t stop and look around once in a while, you could miss it.”



The more we looked into the future,
we learned to listen to what it was
telling us.



Danielle Hermann, AIA, ’s promotion as OPN Architects’ first female principal in 2015 was not by chance. Her career has been dedicated to shaping experiences, not just through the built environment, but through the very practice of architecture itself, particularly for women. She and three other women architects founded Iowa Women in Architecture (iaWia), a not-for-profit organization focusing on educating, empowering and advancing women in design. She is also the founder of AIA Iowa’s Diversity Committee. She has been recognized for her commitment to the profession with a Design Achievement Award from Iowa State University (2013), the AIA Iowa Young Architect Award (2016) and the AIA Young Architect Award (2017).

Justin Bishop, AIA, is a principal at OPN Architects. He founded OPN’s Iowa City studio in 2016. With degrees in architecture (B.A., Iowa State University) and business (MBA, University of Iowa), Justin embraces that creation is an exchange. He is inspired by the space in which technology and architecture collide. Justin’s dedication to design, his company, community and the field of architecture is evident in the many leadership roles he has held in the AIA and the community at large.

MAKING
METRICS MATTER



PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Making Metrics Matter

Robert Yuen

Assoc. AIA, CEO and co-founder of Monograph

& Marjanne Pearson

Founder of Talentstar, Inc.

Monograph CEO Robert Yuen and Marjanne Pearson discuss their timely industry report and firm best practices.

DesignIntelligence (DI): We're talking with Robert Yuen, CEO of Monograph and colleague Marjanne Pearson, Chief Strategy Officer at Talentstar, Inc. Welcome. We just read your recent, excellent, Strategic Risk Report 2023: Top risks, metrics, and strategies to overcome economic uncertainty.

You've graciously made it available to all, and we've included a link here: [Download the Risk Report here.](#)

It seems to dovetail nicely with our current Q2 DI theme of Contextual Awareness. In that light, what motivated you to do this research and share this data?

Robert Yuen (RY): Thank you for having us. We're glad you found the Strategic Risk Report valuable. Our motivation for conducting this research and sharing the insights comes from our commitment to supporting the architecture and engineering (AE) industry. I was previously an architect. Architects and engineers always need context to design. We need to understand the site. The same is true in business. We need to build context around our businesses. What does the changing landscape in the economy look like? What effect will it have on our clients? By making the report available to all, we aim to foster a more resilient AE community, better equipped to anticipate and embrace the challenges for the future of the built environment industry.

Marjanne Pearson (MP): That's a great question. What I've been hearing consistently from people who've read the Monograph report is, "I thought it was just us." Although so many practice leaders are concerned about similar problems and themes, no one has yet consolidated it into one report for the AEC industry. A place where people could say, "Oh, wow, yes — those are the things I'm dealing with. I'm not alone." In working with our clients, we've been hearing consistent themes regarding the future success and sustainability of their practices— particularly related to talent and business strategies, leadership transition, and ownership succession. We've all been going through a period of volatility that began with the pandemic, and it continues with the current economic cycle. Firms are seeking clarity and opportunities to navigate through all kinds of risks they hadn't really anticipated, as well as all the social changes that have happened beyond our firms. This report helps them understand it's not just their single firms — it's affecting the profession.

DI: I'm aware of your primary mission to offer firm management software for tracking internal metrics. To what degree do you look externally to firms, to industry benchmarks and data?

RY: We actively engage with industry leaders, internal and external data sources, and hundreds of Monograph users to understand patterns, challenges, and best practices. For example, in our 2023 Strategic Risk Report we contextualize economic data over the last two decades alongside expertise from AE leaders such as Hemanshu Parwani, "HP", Principal / Owner and CEO at Olson Kundig and Kimberly Dowdell AIA, NOMAC, 2024 AIA President-elect and Principal at HOK. We use some of these insights to inform how we build our platform. So far, we've helped over 800 customers with this data to track and forecast their business performance.

DI: In our Strategic Advisory practice we frequently come alongside firms to coach them to develop the capacity to look externally. Firms get so myopic. Then we suggest that they look to the future, assess what it's telling them in their own unique ways and develop a plan for how they will respond — or anticipate it. Your report's conclusion suggests their forming a Futures Council. As we've had an AEC industry Design Futures Council for years, we support that idea even on an internal firm scale. Can you talk about your approach to the same function?

MP: Absolutely. I've always been impressed with DesignIntelligence and the Design Futures Council. Operationally, most firms develop an annual business plan with a 12-month rolling forecast. In today's world, that's not enough. There's so much more that can be explored. We encouraged our clients to think longer term. AIA had developed the 2030 Commitment, focused on climate strategy, but firm leaders also began to recognize and address justice, equality, diversity, inclusion — JEDI — and other issues we and our clients face. Many of these initiatives were being driven by younger generations, not just the fiduciary leaders.



Before the pandemic, as firms were going global, it became more common for firms to have distributed executive leadership, not all in one headquarter office, but distributed across the firm platform. The pandemic and the adoption of a new world of remote and hybrid working helped practice leadership become more distributed. Firms began to work in hub-and-spoke models rather than hierarchical ones. They also spent more time looking internally at how they were organized, how efficient they were — without necessarily thinking about the changes happening in their client organizations.

Obviously, some firms are ahead of the curve. For years, they have been looking at the future of their market sectors and clients, but this has not been consistent for firms of all sizes and market sectors. It became obvious that for firms to grow and develop, it couldn't just be the fiduciary leaders doing the planning. Not just the people at the top of the organization. And with the reality of multiple generations within firms, with each generation looking at things with different viewpoints, perceptions and ideas, it begged the question: why wait? Why should someone have to pay their dues for 10 or 15 or 20 years of working within the firm before hearing from them and learning more about what the firm could be doing and dreaming about it.

As my partner Linda Wallack often says, it's like sitting with your kids at the kitchen table over dinner. The kids have a completely different idea about what could be. We should be taking advantage of all the brainpower we have in ideas-led businesses like architecture, engineering, planning and design to better think about what could be.

DI: Your report mentions the need to prepare for new business development demands to replace lost projects. Beyond metrics and management tools do you get into how to help your clients do that?



RY: You need a strategy for business development in a more competitive climate. To inform that strategy, you first need metrics to assess how well your engine is running today. Forecast the impact of lost projects on your billings, then compare profitability across project types to find which clients to pursue and where to fix inefficiencies. Efficiency is critical because it gives you more time to reinvest into business development. We also offer bi-weekly office hours where AE leaders share what they are doing. Firms are going back-to-basics with in-person, informal lunch meetings with clients to deepen relationships and understand client situations. Some firms are expanding business development beyond principals.

By tracking client interactions across their enterprises, firms can be more intentional in designing client experiences that reinforce their brand throughout their projects. Happy clients create more projects.

MP: It's top-of-mind right now. One of the things I've learned over the years — through my work with Nancy Egan and Paul Nakazawa — is that in most firms, 80% of the effort is in getting and doing the work, and 20% is in the strategy of what we really want to do and the best way for us to accomplish that. What we're trying to do is to shift the focus to the strategy side to create evolutionary change. That's as opposed to depending on the metabolic side of going after and getting the work without thinking ahead to what the next stage of growth and development might be. That's the basis for everything that we do — to encourage active participation at all levels of the organization — to understand the strategy for why. Why are we doing what we're doing? What does that mean for our best clients? How can we create opportunities to connect with them in powerful ways? How can we build relationships? How can we take the lead in creating our future?

There's a difference in sophistication for firms' business development. In firms with a strategic marketing and business development (BD) approach, there's a broader focus on looking ahead, on building competitive advantage, and on ensuring when you go into the arena for a potential project, you have a high probability of winning that project. Something like 80% of architecture firms have 10 or fewer people — a huge percentage don't have the resources to take advantage of full-time marketing and BD staff. The practitioners are wearing multiple hats and fulfilling the BD function, and doing the best that they can. However, there are resources available now — ways people can learn more about how to be better at building networks and relationships, and communicating why you are the best person for a specific client or opportunity. The biggest issue is not waiting for the right client to come to you but finding a way to create your own networks. That can enhance the perception of your own image and begin to be more strategic about who you're talking to, why, and what you want to accomplish as a result. There is less time wasted on activities that are simply less



productive. This is not saying you shouldn't go after dreams and after pie-in-the-sky possibilities. And it certainly doesn't mean phenomenal opportunities won't come to you as a result of who you are and what you do, and what you're known for. It's just a question of intent, strategy, and focus.

DI: Another keen point in your paper, from Angela Brooks, FAIA of AIA Gold Medal Firm Brooks and Scarpa, tells firms to differentiate themselves by thinking like their clients. Sound advice, but how do you achieve it. Getting a traditionally self-focused profession to redirect their thinking is hard.

MP: Yes and no. I can remember back in the day when Art Gensler started his firm. He hired a business professor to help them understand who their client was and how they could work with them. That was not generally well received in the industry. In the early days, there was talk about Gensler not being a real design firm, which was crazy and inappropriate. Nonetheless, the perception existed because they were so focused on their clients. Over the past 50 years, there has been a shift in the AEC industry to add design awards that are client- and market-focused, recognizing that good design is good business. There have always been firms focused on helping clients achieve success on their own terms. Firms in different market sectors have been doing that for years, from CRS back in the day with K-12 projects, to firms working with medical centers and hospitals to re-imagine what healthcare will be in 7-10 years. Because if they don't, by the time the facilities they're designing today are built, they'll be obsolete. So, client focus is not new; it just hasn't been obvious or prevalent. Today, firms are creating presentations and publications that describe what they do as value propositions with ROI that benefit their clients and their clients' success.

RY: The best way to learn how to think like your clients is to spend more time with them. For example, I block off 90 minutes on Tuesdays and Thursdays for client calls to learn how to improve Monograph. This is in addition to the full-time work our team spends helping Monograph clients, which includes principals, project managers, finance leaders, and many more AE professionals. Over time, you start to understand how your clients think. Architects and engineers can do the same. In our report, Angela Brooks shared examples of how a design project extends beyond the building. That could mean understanding a client's underlying goals and property portfolio to identify a development opportunity not originally scoped out by the client. It could mean understanding how client financing affects your project so that you design a smarter services contract. By understanding your client's context, you can find ways to solve valuable problems for them.

DI: Let's zoom in. As I understand it, one of Monograph's software and solution advantages is its smaller scale and ease of use, as compared to other large scale AEC management solutions. Does that also come with an ability to adapt tailored, bespoke versioning? What about services?

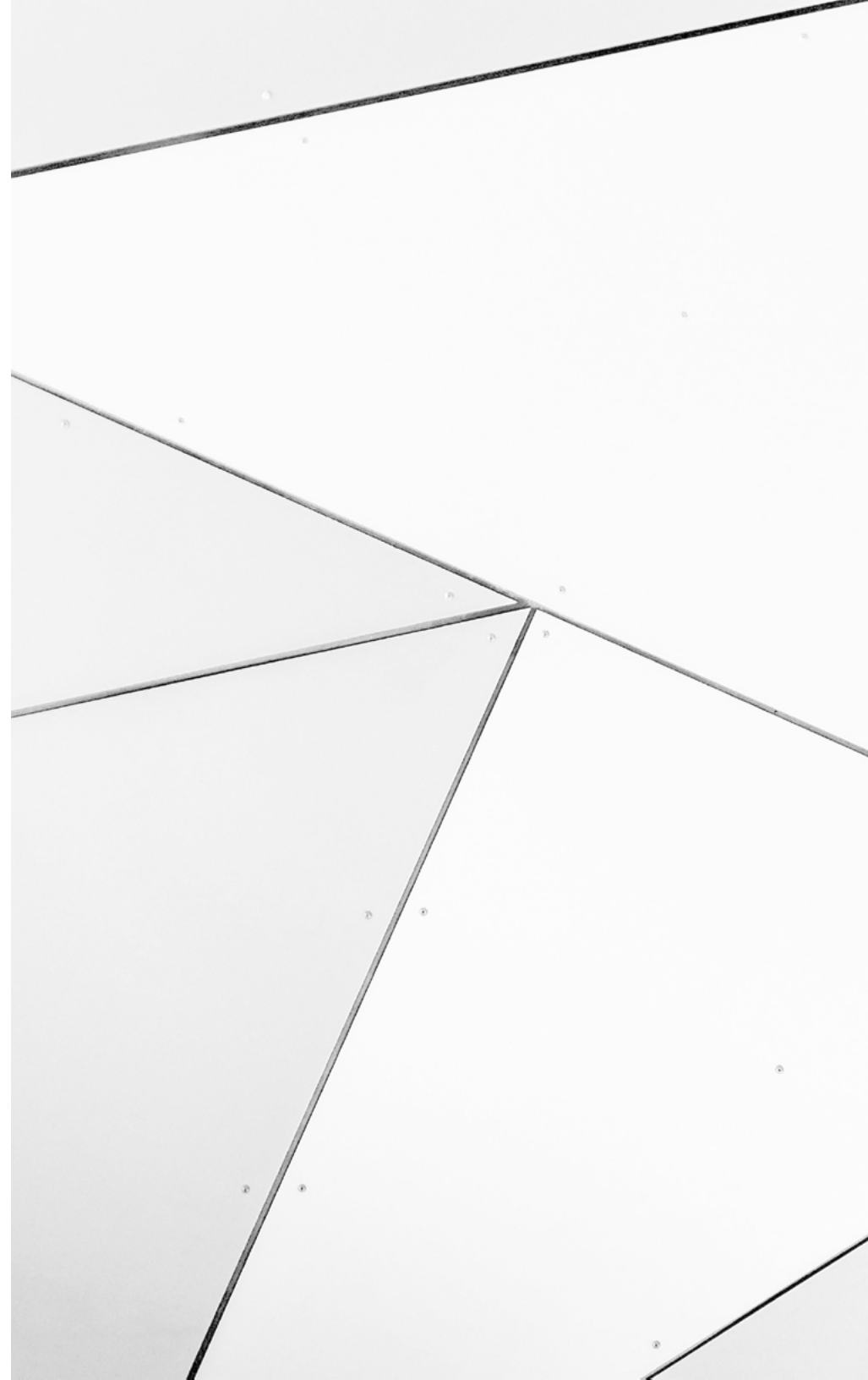
RY: Usually bespoke solutions happen because customers are unsatisfied with the existing solutions and legacy software for our industry that was previously designed for a small stakeholder subset, typically the finance team in large firms. No wonder AE leaders are unsatisfied! Instead, Monograph prioritizes a focused, design-driven approach to help all professionals in AE firms effectively track daily progress and forecast their performance. We invest in ease-of-use, extraordinary customer service, and a high velocity of product development to increase adoption across all firm members, which is essential for data accuracy. Based on continuous

feedback from hundreds of firms, we have developed a focused solution that finally helps AE firms of varying sizes and business practices to drive their firms forward.

DI: With current concerns about inflation and billings covering costs, you suggest in the report that firms reserve cash to weather the short-term volatility. Balanced against paying bonuses, R&D investment and other choices, are their suggestions to help set priorities?

RY: It is circumstantial based on each firm's available cash, size, and cash flow situation. As an example, this is not the time to do competitions as they can be costly during economic uncertainty. Priorities should be placed on things that go towards your billings, projects with fees and not competitions. I have seen too many of my friends double down on competitions during rough times, which adds more pressure to the wounds already around them. The right time to do competitions is when market conditions are great, with a large influx of cash and projects, and the firm is growing. Those are the right times to consider R&D investments, or competitions. When the climate is uncertain it is better to be more predictable and stable.

MP: Volatility has been a consistent issue for years. Most firms have developed a client/portfolio/revenue mix that includes repeat business with legacy clients, as well as multi-year revenue contracts. The challenge today is clients that might have been predictable are experiencing their own unexpected volatility. One of the advantages of focusing on strategy in marketing, sales, and investments is the potential ability to pivot — to marshal available resources in more successful ways. I'm thinking about resources like talent, information, networks, and expertise, as well as time and money.



DI: I liked your advice to start with firm rhythms, cadences and billing cycles to set metrics. In Peter-Drucker-like fashion one of your contributors reminds us: “We cannot fix what we are not measuring.” But beyond the tools, systems and processes there is a culture aspect to succeeding. The team must want to. Is that beyond your purview?

RY: It requires a change in behavior. If you already track time and are interested in performance and establishing a baseline, then adopting a performance management tool like Monograph would be easy. If you don't track time but want to, that's exciting. Architecture is a team effort. Everyone needs to be on board tracking to establish a baseline. Once they know where they're starting from, they can make incremental steps toward improvement. Performance management tools are only relevant if you know where you're starting from. Especially during times of uncertainty, it's good to get in the habit of understanding where you are today. If you are resistant to change, you have to ask yourself why. If things are not working, do something different. If you don't even know your baseline, you have to question if what you're doing now is necessary, and if you need to do more to understand where you are.

MP: It's even further back than Drucker. It goes back to Abraham Maslow and the hierarchy of needs. And I think that the architectural profession is typically focused on the upper end of the hierarchy of needs — self-actualization, transcendence, etc. — the beauty of the work and how we feel about it. But to succeed, we need to care why we're doing something, or the reason behind doing something a certain way. Simon Sinek explained it well with The Golden Circle, which many firms are using as part of their management and process modeling, to understand why they're in business and how that relates to what they do. If everyone in a firm doesn't understand why it matters, it's hard to have a culture of success.

In 1997, James Brian Quinn, a professor at Dartmouth's Tuck School of Business, wrote a book called Innovation Explosion. He was talking about how training dollars were spent. Typically, the highest level was spent on knowing what and how to do things. The least amount was spent on knowing and caring why. But the highest value was in knowing and caring why because that gave us purpose. Over the past five years, purpose has become even more important in all our practices. In many cases, it is driving the younger generations in ways that may not



have been the case for my generation (the Boomers). We can't underestimate the power of communication, understanding and caring why, which means we need to invest in communications as much as we invest in strategy and execution — they are co-equal.

DI: Another angle of attack in your findings was to do more with less. Rebalancing and being more efficient with time. What are your thoughts on looking at growing the pie by increasing revenues through radical new ways of delivering value. We have fought for years against the horrors of simply delivering documents and selling hours. You talk about reinvesting in high value activities. What's your take?

RY: Architects and engineers are in the unique position of shaping the world we live in. It's important to constantly remind ourselves as professionals this is what we bring to the world. And it's important to invest in how we articulate this value to clients. While hours and documents are inputs to designing the built environment, the impact of good design on clients and the world is tremendous. We still see many successful firms working in traditional hourly and fixed fee service models. This is where working with domain experts in marketing and business development can help you reposition the value of your services. It's also possible you are focusing on the wrong clients. For example, in customer discussions, a firm leader shared that Monograph helped them realize their "bread and butter" projects were not profitable.

MP: I'm not a technology expert, but in the last 10 years, there have been major changes in the way we do stuff. We use new technology every day to simplify our lives. And some days that technology complicates our lives and drives us crazy. We need to apply the same thinking to all aspects of our life and work.

With Monograph, you're looking at automation and simplifying the process of understanding how well we're doing in the work we're doing. We're making it so accessible so all team members can say, "Wait a second. We don't have to do that." This puts the decisions in the hands of people who can do something about them and can make small changes with big impacts.

There has always been a dichotomy between the impact and the business of design. DesignIntelligence has been looking at those two aspects for years. Keith Granet's book, *The Business of Design*, did the profession a huge favor. Today, there is more awareness on the subject, but it hasn't necessarily trickled down to the services people are providing and the way they deliver them. Part of that is a result of what's happening in academia, although they are shifting too. Recent graduates are asking why things have to be done a certain way when a faster or less repetitive way may require an investment in technology, a shift in thinking or an approach that makes firms reluctant to move forward. But firms doing those things are seeing remarkable results.

DI: You conclude your report by examining talent, burnout and four traditional growth paths: design, technology, management and business development. In doing the research, did you learn anything new that the report forgot to mention? Any postscript thoughts?

RY: A recurring response from folks reading the report is that it confirms they are not alone in what they are seeing in their firms or regions. As one firm leader put it, "All firms assume the other firm has it figured out, but only they are doing it wrong. The report shows it's "less me, more us." That's why we have been holding biweekly Virtual Office Hours at Monograph to continue the conversation in the report in an open format.

Think of it as a recurring Zoom chat with industry colleagues, where firm leaders can ask questions and share best practices about the business issues facing architects and engineers today.

MP: I will say while there may be four traditional growth paths, we are seeing all kinds of hybrids, particularly in the most creative firms. In her book *Lean In*, Sheryl Sandberg talked about jungle gyms offering more opportunities for creative exploration, rather than career ladders. One of the most valuable assets today is learning agility, combined with flexibility and resiliency.

DI: Thank you for talking with us and for making this valuable research available to the profession.

RY: Thank you. We are happy to share our insights with the AE community and hope our research can help firms better prepare for future challenges and opportunities. If there are other questions or topics you would like to discuss, we are ready to help.

MP: Thank you so much for this invitation. I've been impressed with Monograph's approach to the growth and development of professional practice, and I was delighted to have the opportunity to explore it with them and with DesignIntelligence.



All firms assume the other firm has it figured out, but only they are doing it wrong.

The report shows it's "less me, more us."



Robert Yuen, Assoc. AIA, is the CEO and co-founder of Monograph, a software company revolutionizing the future of architecture and engineering firm performance. Trained in architecture, Yuen recognized the need for better business tools and developed Monograph to address the challenges facing A/E professionals. As a result, he has become a leading voice in the industry, promoting the importance of A/E business performance and helping firms improve their workflows and profitability. His mission is to always be in service to the design professionals responsible for our built environment, letting them focus on what they love and do best.

Marjanne Pearson is the founder of Talentstar, Inc. — a management consulting practice that focuses on strategies for organizational resiliency and success. Her clients are a remarkable constellation of design firms that include signature architects, emergent practices, regional powerhouses, and corporate giants in the Americas and Asia. In addition to management consulting, Talentstar also provides specialty services focused on talent issues for design firms, offering services related to recruiting and talent development; practice management and leadership development; ownership transition and merger/acquisition strategies.

TRANSFORMING SYSTEMS: SEEING IN NEW WAYS



PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Transforming Systems: Seeing in New Ways

Francesca Birks

Design Strategist, Urban Futurist,
Researcher, Writer and Certified Facilitator

Francesca Birks suggests concurrent contexts, diverse perspectives and discursive design to build better futures.

“Let’s use our creativity to imagine new futures that can inspire hope. Equitable, sustainable, ethical, and culturally imaginative futures give us a better sense of direction to steer the things we build today. We now have the opportunity to embrace uncertainty as the real variable that it is and to take a proactive stance versus just reacting to it.”

- Kevin Bethune, “Reimagining Design”

Context is everything for architecture, and two kinds of “contextual” agendas shape its progress.

Since the beginning of humanity, as far back as 400,000 years ago with our Neanderthal predecessors, the human species has relied on our ability to scan our environments to survive. While back then this environmental awareness function proved essential for survival, contextual awareness continues to critically guide the continuation of the human species.

What has changed over the millennia is how we categorize threats and perceive risk and comfort. Our lists and rankings of threats, risks and comforts have expanded to become systemic alongside demographic growth, increased economic output and the introduction of new technologies. The result of all this human productivity in the 20th and 21st centuries is the creation of unprecedented complexity, which requires new methods for intelligently scanning our environments to plan for our future livelihood.

Systems Transformations

The acceleration of change and the emergence of multiple 21st-century crises require new ways of thinking about design. There is a dire need for new approaches given the widespread challenges we are facing as a society: the emergence of polycrisis – multiple crises unfolding at the same time – and the need for systemwide change to achieve the United Nations Sustainable Design Goals (UNSDG) 2030 goals. The World Benchmarking Alliance (WBA) has identified seven system transformations required to achieve the SDGs. They are:

- Social transformation.
- Agriculture and food system transformation.
- Decarbonization and energy system transformation.
- Nature and biodiversity transformation.
- Digital system transformation.
- Urban transformation.
- Financial system transformation.

Several of these systems are areas in which our industry can play an impactful role.

It is no longer sufficient to work in parallel silos. As a profession, we need to begin to think and act in connected ways. This seems like an ideal space for designers, architects and engineers to lead and create a model for integrated design practices. In all likelihood, learning to practice in connected, multi-contextual ways will ask us to explore new forms of collaboration with technologies like AI and the metaverse. But before we begin, we must ensure we clearly understand the problems we are solving as we consider which tools to use as well as potential unintended consequences our technology uses might have.



Concurrent Contexts, diagram adapted from World Benchmarking Alliance

Diagram source: <https://www.worldbenchmarkingalliance.org/seven-systems-transformations/>

Design's Why: An Evolving Role

In the Anthropocene age we are living in, it is worth asking ourselves: WHY are we designers? Who and what are we designing for? How will what we design impact society, the environment and future generations? Good design has the potential to solve societal problems but only once we shift our understanding of design from purely aesthetic or utilitarian purposes to understanding it as a means to achieve ideological change. This potential to transform broken systems has drawn me to work as a strategic designer in our field.

In our emerging future there are paths for many strands of design as we move forward as a profession. To focus our efforts, it is important to acknowledge their different perspectives and contributions. System design seeks better ways to manage the “increasingly complex and global interactions between people, products, and places.”¹ Service design and social innovation are focusing on tactics and strategies to better serve human and environmental ecologies. Discursive design invites us to take a more thoughtful approach to industrial design and “asks us to consider how designed objects might be understood and leveraged for individual and social benefit by moving beyond a utilitarian intention”² and instead to seize the opportunity for the design of objects to communicate ideas and invite reflection.

What these design approaches have in common is a belief that design can actively shape discourse and lead to the creation of better systems, services and societies. This is a development we should be excited about supporting throughout our industry and beyond.

^{1,2} See: “Discursive Design,” Bruce Tharpe’s work on discursive design and inviting a more self-reflective approach to design, and its intended consequences on society.
<https://mitpress.mit.edu/9780262038980/discursive-design/>



As we continue to develop our skills at scanning contextual and cultural awareness, we will need to consider their implications to our society, organizations and ourselves.



Foresight Methods for Inclusive Equitable Futures

In my experience as a Foresight practitioner, I use strategic foresight methodologies to engage different stakeholder perspectives and to practically assess alternative, evolving scenarios. These techniques have expanded my toolkit as a strategic designer and now facilitate conversations focused on exploring the impacts of emerging trends and for envisioning collective aspirational futures. Such exploratory work illuminates the challenges we face and the obstacles we need to overcome if we hope to reach our preferred North Star. To date, the Foresight practice and outlook have been limited because historically they have been primarily white, Western practices. While this has begun to shift in the last few years with the emergence of new voices and cultures in this traditionally narrow space, there is still more work to be done. I can't help but wonder how our foresight methods will evolve and improve when we include a broader range of practitioners.

The Afrofuture strategist and artist Ingrid Lafleur³ has been exploring the creation of equitable futures using art, culture and emerging technology. In a recent talk at the Futures School, she shared the importance of being in conversation with global futures, which include Muslim, Chicano and other perspectives beyond Western-specific cultures. As we design and build our global collective futures, it is time we expand our conversations to include other non-Western-centric voices and celebrate their diverse perspectives, as they offer a richer array from which to choose the future we want to cocreate.

My own strategic design and foresight skills were shaped within the confines of a global engineering company – a culture with a tendency to jump into problem-solving quickly. In these complex times, emerging design cultures must arm us with the

tools to comprehensively evaluate ambiguous problems before proposing definitive, time-bound solutions. Working through productive tensions will yield better outcomes. Rather than fear the conflict and treat it as a threat, we should reframe these productive tensions as essential explorations to ensure we choose the best path forward for most people.

The Road Ahead: Divergent Diverse Teams Required

In a world undergoing immense change there is a clear need to work across silos, challenges and cultures in more integrated, collaborative ways. Whenever assembling a team, a panel or a project kickoff, look at the individuals you are considering. Do they all look and sound like you? If so, it's time to reassess and reassemble the group. Time to add diverse thinkers, doers and designers that will look at the central problem and questions in different ways. The goal is not simply to generate monocultural or dichotomous thinking, but to provoke divergent, expansive thinking that generates new paths for achieving positive outcomes for people, places and the planet.

A Multicultural, Multifaceted Lens

My own perspective – being born 50% Canadian across the border from one of the most powerful post-World War II countries – provides a rich breeding ground for learning. Much of it from my older, at times slightly overconfident brother. Such geographic and birth placements were humbling yet instructive as I learned to be a more adept follower. At least, I hope so. Being born to parents from two different cultures also opened my eyes to more than one norm, or way of experiencing life, and made it less likely I would ever tend to fossilize norms based on one predominant belief system. These outcomes have proved to be a strategic advantage in an ever-complex context.

³ Ingrid Lafleur, <https://www.ingridlafleur.com/> and <https://www.theimaginarium.love/>

Three Tiers:

External, Organizational, Individual

Most of us don't want to add to our daily to-do lists, but we may need to reshuffle our priorities to better meet the needs of the present and future moments. NYU clinical professor and research scientist of ethical systems Alison Taylor teaches a course titled "Leadership for the 21st Century: Delivering on Purpose and Profit." Her class looks at three tiers of responsibility:

- 1) Look Out:** Consider your social, environmental, ethical and moral obligations to broader society.
- 2) Look In:** Create human-centered business practices within your organization.
- 3) Look Within:** Develop the personal skills and perspectives needed to lead effectively and perform our design and foresight work more effectively attuned to individual, organizational and societal needs/requirements with a longer-term mindset.

Given the complexity of our world and the broadening list of risks and challenges, Taylor's tiered approach to leadership and strategic design makes sense. It encourages us to explore external and organizational drivers as well as our own intrinsic motivations.

Over the last three years, as we rode the pandemic's tumult, I have discovered this inner work and reflection to be just as important as the scanning of external drivers. While our Neanderthal predecessors had little time to consider much beyond their immediate physical safety, in our current climate and coming decades new technologies will continue to give rise to new risks. As we continue to develop our skills at scanning contextual and cultural awareness, we will need to consider their implications to our society, organizations and ourselves.



Consider how designed objects might be understood and leveraged for individual and social benefit by moving beyond a utilitarian intention.

- Bruce Tharpe



Francesca Birks is a design strategist, urban futurist, researcher, writer and certified facilitator with 20 years of experience working in the built environment. For over a decade she led the foresight and design strategy team in the Americas at global engineering consultancy Arup and more recently served as the global insights leader at global architecture studio Woods Bagot. While at Arup she authored the demographic "drivers of change cards" and helped launch the ventures function in North America. From Big Tech to the World Expo in Dubai, her work has taken her across the globe and has exposed her to a variety of sectors and cultures and a shared commitment to strategically designing a better future.



“NOT SO BIG” A REALLY BIG DEAL

PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





“Not So Big” A Really Big Deal

Sarah Susanka

Architect, Author and Public Speaker,
Susanka Studios, Inc.

Sarah Susanka responds to the question: Can the principles of “The Not So Big House” be applied to larger contexts?

DesignIntelligence (DI): We’re talking with Sarah Susanka, author of the popular book “The Not So Big House” (published in 1998) and eight other books, and a leading residential architect and voice. While many readers may know your books and your work, they may not know you. To frame our conversation, can you please tell us a little more about your practice and your career focus?

Sarah Susanka (SS): Absolutely. I was a residential architect working away quietly in Minneapolis and St. Paul from 1983 until 1999. That’s when I left the practice I’d founded back in 1983 with partner Dale Mulfinger. I left in 1999 when my life and career refocused around the book that I’d just published. I started writing “The Not So Big House” in 1996 and it was published in 1998. The book encapsulated a lot of what my business partners and I had figured out about the residential market. We had grown a residential practice from just two of us to over 45 people, with three branches in and around the Twin Cities. We’d figured out how to serve middle-class America with residential architecture. And we were absolutely convinced there was an enormous market that architects were missing. We made an excellent living at it, and everybody and their brother wanted to come work for us.

DI: What was your biggest challenge?

SS: The biggest issue we had was to help people who didn't know what an architect does, to connect what we do with what they wanted. After giving many talks at places like home and garden shows, the local science museum and continuing education events, I had learned how to help folks understand what it takes to make a better house, one that would really fit them. It became apparent that the things people ask for when they sit down with an architect have very little to do with what they actually want.

They don't know how to articulate their needs, so they default to names of rooms and square footage expectations. That first book was a treatise to help non-architects recognize what it is that they really want. I explained, "You can't describe what you really want because you don't know how to articulate it. Here's how to do that." All the books that have followed in "The Not So Big House" series have tried to give a language to people who care deeply about their houses but aren't well versed in architecture or residential design. In other words, just about everybody.

That's how "The Not So Big House" was born. It was also born because I saw another major disconnect in my travels around the Midwest – Minnesota, Iowa, Wisconsin – where much of my work was located. There were humongous houses being built all around the area, and every time I would go for a drive, I would see enormous houses that didn't really fit what I knew people were looking for. They were the equivalent of the big hamburger buns without hamburgers – all size and no substance. When I was speaking with a friend about the phenomenon, she called them "starter castles," and the name struck a chord. I used the phrase in my writing to explain what I was trying to help remedy.

The book touched a nerve with people who realized, "I want a better house, but not necessarily a bigger house." It's not everybody. Some really do want a bigger house, but an awful lot of people want something that fits them more like a well-tailored suit than a sack. That's what this book series is about.



Sarah Susanka speaks.
Author photo used with permission.

DI: Your early awareness of client service and client focus is a rarity in our profession. Likely a big contributor to your success. And focusing on empathy and listening are skills many practitioners haven't mastered yet.

SS: Too many of us assume everybody speaks our language, because everybody in the architecture profession is three-dimensionally adept. We enter architecture because we think spatially, but most people don't. Helping them tune into what makes them feel good in a space is educating them at a different level. Architects often feel like people don't want what they do, but so many don't even know that what we do even exists. But once they see it, they like it. In a way, I feel like I'm an interpreter and a bridge of worlds.

DI: Did you have exposure to other building types or scales?

SS: Very little. I started off in a firm that did larger buildings, corporate structures and airports. I was cutting my teeth on larger buildings. I felt incredibly frustrated that the primary focus for clients seemed to be "Does my office have more square footage than yours?" It made me sad because we have so much more to offer and so much more capacity to create truly nurturing environments that have very little to do with size.

And so, at the ripe old age of 21, I decided I wanted to work for people who really cared about the spaces they inhabit. I wanted to be working directly with the people who would use that space. That's what led me into residential work. I did do a couple of other buildings while in residential practice though. Those were libraries, which drew on many of the skills I'd learned in residential practice.

DI: You mentioned your partner. Were there other mentors who might help us understand your journey, who helped shape your career?

SS: There were many. I was hugely influenced by Christopher Alexander and the book, "A Pattern Language." That's the most important one. But I also loved Fay Jones' work and got to meet him several times. He's a kindred spirit. And more globally, before I really knew anything about Frank Lloyd Wright, I learned a lot about Japanese architecture.

I had a professor at the University of Oregon who was steeped in Japanese architecture. I learned a lot about architecture through studying the traditional forms of Japanese architecture and design. When somebody told me my work reminded them of Wright's, I thought, "I'd better look into this." And then I discovered that he, the Arts & Crafts movement, and my own work were all influenced by the same root source—Japanese architecture.

DI: I'm exploring a thread in our conversation today. The idea of moving from "Not So Big" to "Big," meaning the greater potential impact of practicing "Not So Big" principles. Since the first book, you've gone on to create a brand with follow-on books, seminars and philosophies. How did all that come about?

SS: The expression "Not So Big" inadvertently spoke to a segment of the population that felt completely left out of the discussion about what they wanted, both in house design and in how they lived. As a result, I have a fan club that has an almost religious zeal. They're into it in a big way. I haven't published any further books since my last book in 2014 and yet I still have a huge fan club that wants more of it. I could clearly write many more books along the same lines. The audience is ready and waiting.

**DI: You're just responding to the marketplace demand?**

SS: I was. But I was responding because I was living this stuff and I loved it. And I knew that if I could simply better articulate what was wanted, it would give people the capacity to do it for themselves. When that first book came out, I suddenly realized what had happened. I sold so many more copies of that book than I ever imagined possible.

I realized I was telling everybody that they needed an architect, but they didn't know how to find one. The AIA wasn't really set up to do that at the time for residential architects. So, I started something called the [Home Professionals Directory](#) on my "Not So Big" website, now on Susanka.com, that allows architects to list themselves if they're interested in doing residential work. And it allows homeowners to find them.

It's still going strong. It's also a way that reporters are able to find architects that do "Not So Big" houses. Back in the heyday of my book publishing, many articles came out and they found architects through that means. But it's still a great way for homeowners to find architects in their area that are interested in a house or remodeling that's better rather than bigger. My goal was really to help the whole profession and residential architects in particular.

DI: To this day, the AIA or its local chapters are not set up to make recommendations, almost by intention.

SS: I used to be the chair of the publications committee at AIA Minnesota. I realized our magazine was oriented primarily to architects. You could give a subscription to a client, but it was always marketed to the corporate client. We were promoting each other, architect to architect.

We realized, especially because of the work my firm was doing, that we could use the magazine as an outreach vehicle to capture the imaginations and interest of fans of architecture for their own

homes. Every corporate CEO has a need for a beautiful place to live, as well as for a new corporate headquarters. But there are also many fans of architecture who aren't CEOs, but who want to know about local architects' work as well. So, we found a way to use the magazine to appeal to a much larger general public audience, and it helped the whole profession as a result.

That's the part that still isn't completely understood. Folks see residential architecture as a little brother that's just not that important in the context of the whole profession. Yet, I have always believed that we have a pivotal part to play in introducing the public to what architects actually do and why what we do might be of value. Because if somebody has hired an architect to make them a beautiful house, they're much more likely to be happy about working with an architect for a larger building and understanding more of what it's about.

So I always felt like an advocate for architecture as a whole. That's why I've thought of myself as an interpreter and translator of architecture into "normal people speak." There are of course many layers to this profession, but residential architecture plays a more important part than most of us understand.

DI: That begins to answer my speculations that you had early interest in broader goals that transcended your practice and the response to your book. Let's talk more about houses. One of the unwritten aspects of that is the architect as confidant and psychologist. In my experience, that can be intimidating in the intimacy it requires. You have to resolve squabbles and become a therapist, a referee. Was that your experience?

SS: I have a great line with my clients. When things started getting heated between couples, I would say, "You guys clearly need to have this conversation, but you don't need to pay me to listen." That always solved the problem and ended the discus-

sion quickly. They didn't want to argue in front of me anyway, but they were in the middle of it. That response always brought things back into focus.

DI: That's smart. You seem to be an early trend recognizer. You take action and solve the problem. The rest of us just keep muddling through because we're focused elsewhere or don't see it. Your ability to diffuse and disarm those difficult personal client situations is admirable. Are those skills transferable? What else is required?

SS: You have to be a good people-person. Don't go into residential architecture if you don't enjoy people. For me, the biggest pleasure of serving that clientele is making friends. Most of the people I have worked with I end up becoming very close with. They're revealing their worlds to me. I would often tell them, "I can make the best house for you if I can come and stay with you for a weekend."

It's true because you see stuff communicated that you can't learn in a meeting. The magic comes in being situationally aware and being willing to listen, watch and learn, by being a good observer of human interaction.

DI: That's a helpful insight. The public reception of your books has been an astonishing, smashing success, with more than a million copies sold. That is John Grisham and J.K. Rowling territory. Did you love to write when you were in grade school and high school?

SS: I did. I actually wanted to be a writer first. My dad was certain that was an extremely bad idea. We moved from England to the U.S. when I was 14. Before moving, I had declared I was going to be a neurosurgeon (which it's a good thing I'm not, because I shake a lot now, due to something called Essential Tremor, which is an inherited condition that gets worse with age).

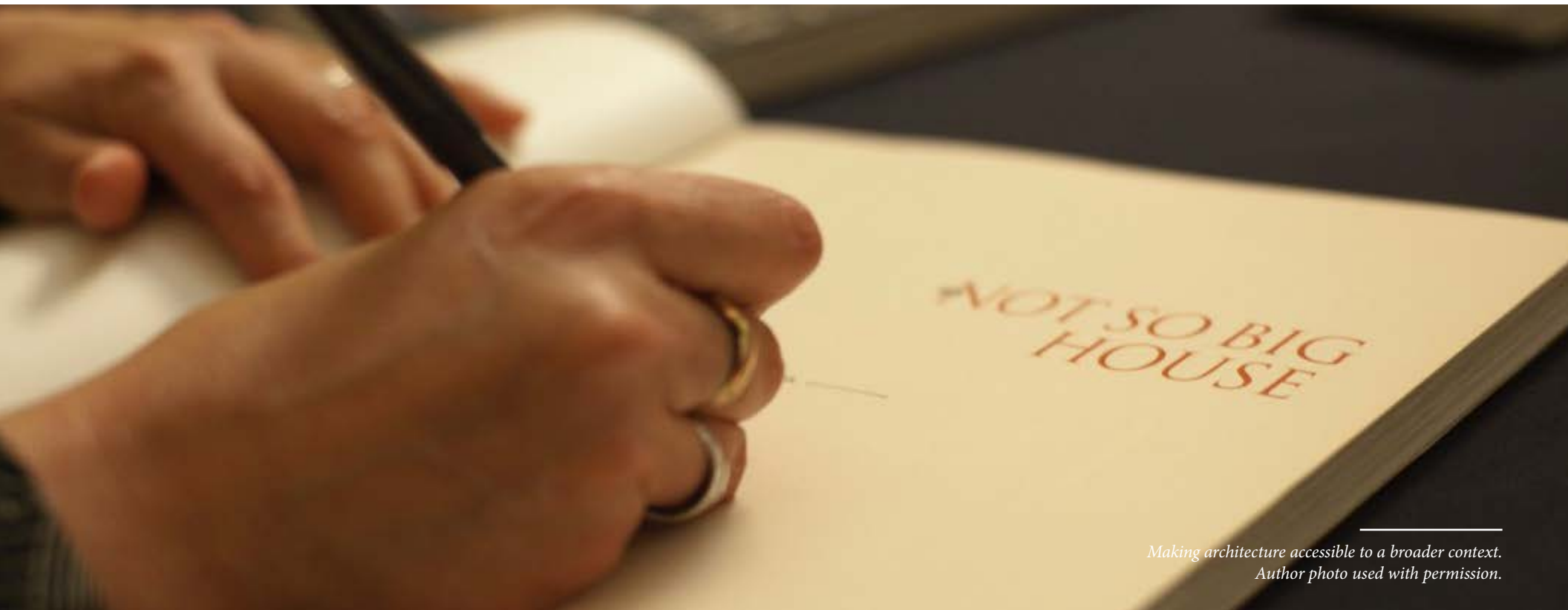
So, when I came home from school one day and announced I was going to be a writer, my mother burst into tears and my father suggested I choose another more dependable career. But it was definitely my first love. I adored writing. He had counseled, “Why don’t you wait until you’ve got something to write about?” but I loved writing fiction, so I didn’t feel I needed to. He was more practical, though, and wanted to make sure I landed on my feet. I get it now of course, but at the time I was frustrated.

But I took his advice, since I also loved building models, drawing perspectives and making plans of imaginary buildings, and I went to Cal Poly San Luis Obispo first and then the University of Oregon to study Architecture. By the time I started my practice in Minnesota, I’d gotten my master’s degree from Minnesota. As I started to work with residential clients, it didn’t take long to

realize: Now, I definitely have something to write about because these people (my clients and the public in general) clearly do not understand what we do.

They wanted something badly, and I knew how to help them get it. I knew somebody had to write this down, but at the time, I was too busy. Our office employed 45 people at that point, and I was the managing partner. I had a lightbulb moment – I realized I was just saying I couldn’t because I filled my calendar every month with all the other stuff I had to do.

I thought, if I make myself into a client and plug myself into my own calendar, then that’s when I’ll write. I gave myself a new client number, designated two hours every Tuesday and Thursday morning, and off I went. That’s how it started.



DI: Very few architects' written work has engendered such accessibility. Peter Eisenman's polemic, intellectual essays or Frank Lloyd Wright's books, for example, are not accomplishing that.

SS: That's true. An amazing conjunction of things happened when I was part of AIA Minnesota. I gave a talk at one of the local AIA conventions. I was speaking about how I felt architects needed a spokesperson that would help people understand what architects do.

I became passionate about it and looked at research studies that had been done. Then, the whole thing with the book and the response to it happened, and I realized, "Oh, my God, I'm playing that role." That wasn't the way I had envisioned it, but that's what I had clearly turned into.

DI: Your residential work and your writing are two coincident vehicles for a larger purpose. At some point, your bigger message and desire to give back to the profession emerged. Have they succeeded?

SS: It has certainly succeeded beyond my wildest dreams, but there is always more work to do. And you can probably tell by the way I'm answering your questions, I love to inspire people to find their own creative sparks. It comes in so many different ways. Young architects today are picking up the torch on all the things I was interested in in the past. It grows generation to generation. There's so much more that's possible by simply allowing people the opportunity, and we structured our practice to enable that. I've had innumerable young architects over the years call me and say, "I heard you gave this AIA convention speech about how to structure a firm for residential architecture. Can you help me?" That knowledge has been out in the ethers for several decades now. I do less of that advising now, but it has permeated into the residential architecture culture and has per-

sisted. It's not loudly announced, but it's had a huge impact on residential architecture and, I suspect, architecture in general, both in terms of how we serve our clients and in how to speak a shared language of spatial design that's applicable to far more than just houses.

DI: Doing single-family houses for middle- and upper-class clients can carry an elitist label. At the same time, within architecture, doing residential work has always been a kind of R&D learning lab with the lessons and benefits being contributed to the greater good.

Is there a sense of guilt in just working on one project for one well-to-do client? Some practitioners don't do that because they're busy saving the world. They're working on systemwide global issues. Can you talk about that spectrum or responsibilities, choices and contexts?

SS: First, it takes all of us, and there's room for myriad different missions. I do not judge clients that have built very large houses using the same philosophy I use for a 600-square-foot house. It's a universal language. It doesn't require a particular scale to be applicable. But what I see is that when we speak about what we do without imposing our own ideas of what's right or wrong, everybody benefits.

I gave a talk – I can't remember which state it was in – where a young woman was serving at a cash bar in the back, and there were all architects and their clients in the audience. I gave the presentation and was explaining how to make houses that are comfortable and livable – houses for average Americans –, whether remodeling them, or building new. And when I was done, that young woman came up to me. Everybody else had left, the book signing was done.

She said, "Can I tell you something?" I said, "Of course." She said, "You just changed my life." I said, "Really? Tell me more."

She said, “Well, I live in a trailer. I don’t have a fancy place like those pictures you were showing, but you just gave me the tools to make my own little place hundreds of percent better.” She had tears in her eyes. It was amazing to me because I’ve worked with Habitat for Humanity and all sorts of other organizations. But when we speak simply about what we do as architects – the small changes that can be made to make a place a more delightful place to live – it touches so many people. That’s because home is something that, if you give people the tools, they can start applying for themselves. It doesn’t have to be complicated.

DI: I was searching for those essential principles. My question is: Can the principles of “The Not So Big House” be scaled to address broader responsibilities? We’re talking about them within DesignIntelligence. What are our new responsibilities as architects now? People are taking ownership for the well-being of the occupants of their buildings, and they’re measuring that. I didn’t go to school to learn to do that. Being aware of the growing range of contexts is daunting: social responsibility, environmental stewardship, economics, misinformation, et al. Can the principles of “The Not So Big House” be scaled to embrace broader responsibilities and contexts?

SS: I have believed all my life that, although we can each only act from our own small point of awareness about what’s going on in the world, when we do so with passion it can affect that world in a big way. “The Not So Big House” had a huge sustainability component to it way before most people were talking about sustainability. Every one of my books, and especially that first book and the one about remodeling, have dealt with it in a way people can hear and learn how to use their available budget more effectively, to include both livability and long-term sustainability.

I tend to do it by giving the tools to the person reading. Yes, we have a responsibility, but if we only talk about the responsibility, we tend to end up talking only to each other. If you just



do what's in your heart, the necessary societal changes happen automatically because each one of us sees a different issue that needs attention, and by speaking about that one thing, the whole moves toward balance. No one of us can see the whole picture, but collectively, as we act from our own heart and awareness, things can shift quite dramatically for the better.

Being militant about an issue is different from bringing clarity to it. If you're concerned about housing homeless people, for example, getting engaged even in a small way can become the beacon for others. It's the way we are all inspired, and the way we all learn – standing on the shoulders of those who've gone before us. That's the way I go about it; many of my books refer to Gandhi's famous quote, "We must be the change we wish to see in the world." (And if you want more on this subject, I've written a non-architectural book called "The Not So Big Life," in which the deeper meaning of the quote features prominently. But that's for a different interview.)

This is about living with integrity by speaking and acting upon what you know through your own direct experience. I'm not so much talking about fixing the world. I'm talking about moving from your heart's center, from a place of your own inquiry into what really matters. What am I responding to? What really affects and moves me? And then engaging the world from that place, authentically, human to human. Then, just like Gandhi, you are embodying what you have come to know through your own life experience. That's how things actually shift.

DI: I love the ideas of giving tools to the people and starting from the center, but do we need to assume broader responsibility? Clearly, you believe we do.

SS: We do. We can and do have an enormous impact on society, in many ways larger than we realize. But the understanding

of how we make that impact has to come from the heart or it doesn't work.

DI: We're seeing an amazing growth in current awareness of women and diversity in the profession, but how can we advance the cause beyond awareness? There's a growing momentum, but I wonder if anything is changing. I'm thrilled to see it. Maybe we have to celebrate this awareness stage first to get to the next stage of true integration, real work and change. What are your thoughts?

SS: I come from an odd background in this, in that I never had any problem in the profession because of my gender. I don't think of myself as a woman architect, I think of myself as an architect, and I've never really had the difficulties that I know many others have. I'm quite certain that I have benefited from those who paved the way before me, and I commend those who continue to blaze the trail for those who will benefit over future generations. But I just haven't made it a big issue for myself. Mostly I just say, "I'm an architect. I know the world needs what we do, and I want to help them find us."

DI: That's one way to get ahead of the issue. Live it, do it, be it. Lead by example versus talking about it. In my years working inside a construction company, I learned the difference between talking about things and doing them. It's a different mindset.

SS: The only place I ever found discrimination against women was early on. I was 17 years old, and I wanted to get into Cal Poly's architecture program. I went to meet with three or four architects in Los Angeles, where I was living, to find out a bit more about the profession. One of them told me, "You're a girl. You should be an interior designer." That, more than anything, made me want to be not just an architect, but a damned good one.



Our whole culture is oriented around “If a little is good, more must be better.” It’s a design problem. It’s not about getting more and more and more. Our society tends to think more is going to make it better. By disconnecting more from better, we get to what we really want and really need.



DI: It’s staggering how many times you hear that story.

Many current thinkers argue that to make a difference with our bigger issues, it’s going to take more than individual gestures. They believe if we want to have wholesale impact, it’s going to take systematic change, major government interaction, changing the rules of the game, and incentives and rewards seen in new frames of reference. Do you agree?

SS: To an extent, but I’d also say it will still take passion and individual efforts that may not always be recognized as part of a larger plan. Ed Mazria and I were jurors at the Solar Decathlon¹ one year, and he had just started talking about the 2030 Initiative. He hadn’t even named it yet. He just articulated what we needed to do by 2030 to affect climate change and that, as architects, we had an important role to play. I could feel his passion as he was speaking about it and was moved by it.

He hadn’t started to promote it yet. I was at the time being interviewed all over the place, and I told the Washington Post and the New York Times that same day what he had been telling me about and that he had something important to say. Although I don’t know if it influenced any instant interviews and articles for Ed, I do know that the reporters I spoke with were now greatly interested and listening for further word of this new initiative from Ed.

When an idea’s time comes, doors open and it moves out into the world – often at lightning pace and seemingly defying the laws of gravity as it does so. Change happens because of your passion, not because you’ve got an organized and overarching plan – though planning has its role. It’s just not the full extent of how change happens.

If an organized plan comes down the road, and it’s your passion, great. Dive in, and if you see something that’s missing in the

¹ My friends Richard and Melissa King are releasing their new book on the subject, “Solar Decathlon: Building a Renewable Future,” for which I have written the Foreword.

plan, make it your job to bring that to the table. My passion was to help people find a better way of using their limited available budgets, rather than building gigantic sacks of space they didn't enjoy living in. I was passionate about that, and it translated into action. Without passion, you can have the best laid plan, but it still may not catch fire and spread, as world-changing ideas tend to do.

DI: Aristotle said, “When an object moves, something causes it to move.”

SS: That's right. And things happen way faster than you can imagine. That's why I often look at the pessimistic “doom and gloom” views of our ability to change with skepticism because I know how things change when somebody sees a way. You don't necessarily know how it's going to happen, but in those instances, they are onto something. It's the individual with passion that is the real mountain-mover.

DI: Bucky Fuller's trim tab idea.

SS: Absolutely.

DI: What are you most proud of? Your greatest achievement?

SS: Where I've had the most impact, I believe, is in inspiring people – architect or not – to recognize they have a lot more capacity to engage in the things they love doing than they might have thought. Simply that. By just encouraging people to see that if they love something or want to participate in a certain kind of project, they can – that gets the creativity inside each one of us activated. That's what they are in fact being called to do. It's not self-centered or out of reach. It's what they were made for. So, place your attention on that dream and let it take flight. You don't actually have to make it happen. It will happen by itself when you let yourself dream and take the first step like

I did, making time in my calendar to write. Everything else happened because of that first step. I simply had to notice that that's what I really wanted to do to make a small shift in my life so it could happen. That's an important message, and one we don't get taught in school.

I've had the privilege in my public speaking to watch, on many occasions, as an audience suddenly gets it – the permission to do what they really want to do or believe needs to be done. You can feel the electricity in the room when they start to see that, “Oh, I can do this. I don't have to keep telling myself I can't because somebody else is doing it or I couldn't do it well.” A big part of what I've been doing over the last 20 years has been to help people see beyond the limitations they've put on themselves.

That's where my “Not So Big Life” book has had an impact on many. In the architectural profession, letting people see beyond their preconceptions about what they can and can't do is, I believe, a significant legacy. Because once you give people permission to pursue their insights and their dreams, and to follow what their hearts long to participate in, that's world-changing.

And it's not “me” that's doing the world-changing. It's letting people recognize that we can each do it for ourselves. I often say to my architectural audiences when I'm speaking, “Stop for just a second and recognize the amount of creativity in this room. Here's 500 architects. Imagine what we could do if each one of us had the courage to act upon what we know and see and dream.” Our ability to change the world is massive, but it doesn't start by trying to figure out how to change the world. It starts with “What am I really drawn to engage?”

As you follow that, the world changes with you. That's what I think is the biggest legacy. It may not be visible, but it's a big deal.

DI: When people come up after a talk and say, “You just changed my life. You changed the way I look at the world,” that’s gratifying, I’m sure. Any final life changing thoughts?

SS: It certainly is. Often when people hear “Not So Big,” they’re thinking size. I try to point out it’s not about size, it’s a sensibility. It’s about proportion rather than scale, because our whole culture is oriented around “If a little is good, more must be better.”

The “Not So Big” philosophy is about taking stock. What do we really want? What do we really need? And then, how do we design a truly sustainable way of living? As William McDonough talks about, it’s a design problem. It’s not about getting more and more and more. Our society tends to think more is going to make it better. By disconnecting more from better, and then learning to forget about square footage, we get to what we really want and really need. Finally, how do we make that the best it can possibly be? That’s what “Not So Big” is about, and despite its name, and even after all these years, it seems it’s still kind of a big deal.



Once you give people permission to pursue their insights and their dreams, and to follow what their hearts long to participate in, that’s world-changing.



Sarah Susanka, FAIA, is a bestselling author, architect, public speaker and cultural visionary. Her “build better, not bigger” approach to residential architecture has been embraced across the country, and her “Not So Big” philosophy sparked an international dialogue evolving beyond our houses and into how we inhabit our lives. Susanka was named a “Fast 50” innovator by Fast Company, a “top newsmaker” by Newsweek, and an “innovator in American culture” by U.S. News & World Report. She is a member of the College of Fellows of the American Institute of Architects, a recipient of the Anne Morrow Lindbergh Award, a senior fellow of the Design Futures Council, and the author of nine books, including “The Not So Big House,” “The Not So Big Life” and “Home By Design.” She has demonstrated through her designs, books, articles and presentations, that the sense of “home” we seek has to do with quality, not quantity. As a leading advocate for the re-popularization of residential architecture, Susanka has improved the quality of home design while countering the elitist image of architects commonly held by the public. Her books have sold well over one million copies. Join her online at www.susanka.com.

IN THE FUTURE, EVERYONE'S AN ARCHITECT (AND WHY THAT'S A GOOD THING) PART 1



PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





In the Future, Everyone's an Architect (And Why That's a Good Thing) Part 1

Eric J. Cesal

Designer, Educator, Writer,
and noted Post-disaster Expert

Eric Cesal boldly explores the architect's role over time and the future impacts of artificial intelligence on practice.

Editor's Note: In an exploration of this Quarter's theme, Contextual Awareness, DesignIntelligence offers an intriguing two part series, including a mind-blowing video by author Eric Cesal. Read on, and stay tuned for the second installment in Part 2.

Architects in Time

When I was first invited to contribute on the theme of contextual awareness, there didn't seem to be anything to talk about except time. Having practiced architecture all over the world, I appreciate how important it is to be aware of one's context. However, those experiences taught me that knowing when you are is at least as important as knowing where you are. The "when" dimension is also the one we architects always seem to get wrong.

Architecture is always lagging. We've lagged in adopting new technologies - embracing reinforced concrete technology half a century after engineers did, and embracing CAD/CAM technology decades after the aerospace industry pioneered it. We trail our peers in medicine and law in achieving diversity. Many architecture schools still rigidly adhere to a 20th century instruction model, which was meant to simulate a 19th century practice model, which we attempt to remedy by interjecting 21st century technology into the studio.

Something is 'out of time' about architects. Maybe that's because there is something fundamentally timeless about architecture (good architecture, anyhow). Perhaps because our work is evaluated over decades and centuries, we move through time at a different pace than doctors, or lawyers or engineers.

An architect's core function is as a translator, one who mediates between client desires and the public trust, and that hasn't changed much in centuries. Architects translate their clients' desires and intentions into built form. It's a task that requires extensive, expert knowledge of myriad technical fields, and general knowledge of many other fields. Done well, it requires empathy - the kind that allows you to intuit a client's spoken and unspoken intentions.

It also requires an ability to translate those intentions into multiple dialects: the architect must re-articulate those intentions in the languages of the contractor, the code official, the review board, et al. She must also be able to represent those intentions in multiple non-verbal communication forms including sketches, construction documents, specifications, 3D building information models and dozens of others.

It seems improbable this fundamental role would change, seeing how it has withstood all the technological and sociological shifts to date. However, my background in disaster reconstruction cautions me against this kind of "so far, so good" thinking. Things are only ever in stasis until provoked out of stasis, usually because of some cataclysm, black swan event, or technological revolution. Indeed, architecture was born of such a revolution.

I maintain that the profession of architecture owes its existence to a particular technological revolution: the elevator safety brake. This invention kicked off a global technological arms race among engineers to make elevators faster, safer, and more accessible. In the process, they made tall buildings practical for everyday human use. The progress of elevator technology inspired a similar technological push in building science. As cities pushed skyward, their growth furthered the case that specialized, licensed professionals were necessary to protect the public's safety in the ancient, but newly complex endeavor of designing and building buildings.

Imagining Future Practice

What might the future of practice hold? Taking a page from my friends at [The Long Now Foundation](#), I began to imagine the present as a midpoint on a long continuum. In this case, stretching backwards to the professionalizing of architecture in 1897, and extending into the future another 125 years, to understand how an architect might understand their own temporal context today. But looking that far into the future can get a bit fuzzy. In lieu of idle daydreaming, I took a science-fiction prototyping (SFP) approach, blended with a McKinsey 3 Horizons approach to look for the seeds of an architectural future, here in the present.

Let's lay the foundation. [Science Fiction Prototyping](#) is a technique first introduced by Brian David Johnson, then a futurist working at Intel, which aimed to imagine the future without getting lost in the messy business of forecasting. The technique principally involves creating stories about the future by extrapolating current trends in research and innovation. By grounding the affair in storytelling, the future is given structure

(assuming your story has structure). The invention of the whomajigger was necessarily preceded by the invention of the whatchamacalit, and so forth. Plausibility is what distinguishes good science fiction from the rest. We can suspend disbelief because it seems like a future that could happen. And by auguring towards good science fiction, one augers towards a plausible version of the future.

McKinsey's [3 Horizons model](#) is a similar device. It also believes that seeds of the future are perceptible in the present. In other words, the future is already being invented, it may just not look like anything remarkable just yet. Assuming they want to stay relevant, an executive's role is to balance the maintenance of the 1st horizon, navigate the 2nd horizon, and anticipate the 3rd horizon.

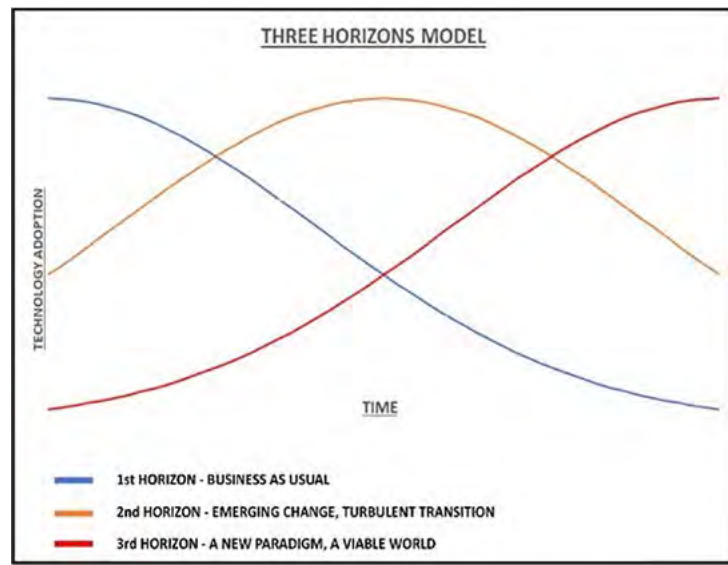


Figure 1: The Three Horizons Model, after McKinsey and Co.
Image Courtesy: Ryan McCabe, BNIM

A weakness of the 3 Horizons Model is that it depends on an individual executive's subjective perception of the future, and how fast it's approaching. That's overcome by baselining one future perception against another. In Figure 2, we see two understandings of the future. Firm A understands the distribution of the 3rd Horizon curve as much tighter. To Firm A, the future is approaching faster, which will, of course, inform their plans to adapt to it. Firm B (shown dashed) may understand the exact same future - the same technology, the same social changes, etc. - but perceive it as approaching more slowly.

Firm B will therefore likely have a different approach to the future, due to embracing it with less urgency. At any point in time, Firm B is behind Firm A in its technological adoption and preparation for the future (y-axis), because it perceives the onset of technology as being farther out in the future (x-axis).

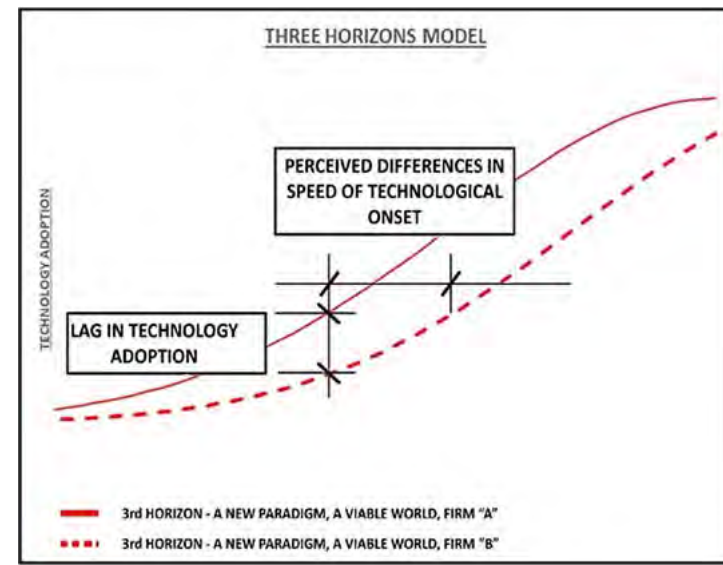


Figure 2: Two Understandings of the Future.

How Fast is the Future Approaching?

Just how fast is the future approaching? The recent flurry of interest over Natural Language, Generative AIs (NLGAI)¹ like Chat GPT and Stable Diffusion seems to have ignited another round of wild speculation and claims that the robot takeover is around the corner. Futurist Chicken Littles have been saying that since at least the Industrial Revolution, and yet there are more people (and more architects) than ever, vs. a relatively scant few robots. Our most advanced robots still struggle with things easily mastered by five-year-olds. As reassuring as I find that observation, I've seen *The Terminator* more than once, and I'm perpetually mindful of architecture's sluggish history where technology is concerned.

To resolve this conundrum, I turned to an SFP approach, to generate a story about the future practice of architecture. I sought one grounded in today's technology, while benchmarking the present as a midpoint in the long continuum of architectural practice.

Survey the recent cacophony around NLGAI and architecture, and you'll find a good deal of the kind of "special pleading" identified by Richard Susskind in his 2016 best-seller "*The Future of the Professions: How Technology Will Transform the Work of Human Experts*." In it, Susskind asserts:

"They [professionals] accept that the professions in general are in need of change, but they maintain that their own particular fields are immune. Exploiting the asymmetry of knowledge, we are told

that you don't understand. This claim tends to be followed by a list of characteristics of their work that make change inappropriate."

In a hypothetical architecture firm, Lang, Shelley & Associates (LSA)² you might hear this response:

'Of course technology is going to change work, but it will mostly automate [the parts of the job I already dislike] and [someone else's job]. It can't threaten an architect's core work, because architecture requires creativity and empathy, which computers cannot emulate.'

Perhaps LSA has a point. Many readers have already incorporated some forms of artificial intelligence (AI)³ into their practices, and the need for human talent is still high. But within the confines of AI's current use, it doesn't challenge an architect's fundamental role as translator, because clients still need architects to facilitate the translation from intention, through complicated software, around byzantine building codes, over technical challenges, and into the built environment. Moreover, all computer programs, no matter how intelligent, are still bound by the GIGO Law ("Garbage In, Garbage Out"). Without knowledgeable architects to provide the right input to any generative algorithm, its output is worse than useless, it's dangerous.

I'm not here to argue whether architecture does or doesn't require [blank]. I'll only point out that Susskind's 'special

¹ Includes, but isn't limited to, Chat GPT, Midjourney, DALL-E, Stable Diffusion. Any program that allows a layperson to generate written or visual content without coding.

² Lang, Shelley and Associates, a fictitious firm homage to Fritz Lang and Mary Shelley, two artists who tried to warn us about technology.

³ Here, we take AI to mean all forms of artificial intelligence, including weak, strong, and general, as well as all forms of machine learning as well.

pleading' above is the death rattle of every profession that has ever fallen under the wheel of technology. Professions who believe they can be replaced usually take steps to avoid it, while professions that myopically think they can't be replaced (e.g., elevator operators) usually end up getting replaced precisely because they took no steps to moderate technology's advance.

But that's not us, right? Right?

The Blind Spots: Two Assumptions

Last year, in a lecture on the future of design practice, I opined to a student audience that the biggest mistake architects make when thinking about the future is assuming that they will be a part of it. This cognitive bias is dangerous when applied to any technological innovation; it allows one to consider: "*How will I use this new technology to augment my services?*" and avoid the more depressing questions: "*Will my services even be required?*" and "*Will this technology replace my services?*"

In surveying the popular and academic literature around AI and architecture, there seems to be a consensus that these new AI-driven technologies will be rapidly integrated into the architect's toolbox, nestled betwixt Grasshopper and some neglected drafting dots, assuming we obey the authors' injunctions to get in front of the technological curve, and start shaping these technologies to our own collective benefit. Besides, the only thing AI has done so far is given us a whole new set of

sophisticated design tools that make designing easier, faster, more creative, and less error prone. Sounds like a false alarm!

This engenders two assumptions. If not faulty, they are certainly worthy of inspection. It's assumed that new AI-driven technologies will spawn tools which:

1. Will be tools of the *architect* and not someone else.
2. Can be integrated into practice in a fashion and at a speed that makes a meaningful (and positive) change in the architect's work and life.

Assumption 1: New AI-driven Design Tools will be Tools for Architects

I had a nettle in my brain when I began this article: I had already read a few of the more popular books and articles on the emergence of AI in architecture. I recall thinking at the time '*I wonder why they assume these technologies are built for, or will be in the hands of, architects.*' To invalidate my suspicion, I began this piece by consuming a wide smattering of articles on the prospects of AI in architecture. Wherever an author had the courage to confront the naked question '*will AI replace architects,*' they landed on the same assumption. Even in the most rigorous academic papers, when the subject turned to whether AI would replace architects, the conclusion was a breezy, *a priori* '*Doesn't seem likely*' or '*that wouldn't be good.*'



These kinds of answers seemed oddly dismissive, given the existential nature of the question.

In their essay *Artificial Intelligence for Human Design in Architecture*, Renaud Danhaive and Caitlin Mueller of MIT'S Digital Structures Lab write

“Indeed, in recent years some have proposed AI-driven platforms that generate architectural artifacts, such as floorplans or facades. However, when completely isolated from human designers, such aspirations may be missing the point: the human experience of the built environment, arguably the most critical component of architecture, will always be best understood by a human designer.”⁴

Similarly, Carl Christiansen (Co-Founder and CTO of Spacemaker AI) opines:

“But most importantly, to be adopted, workflows enabled by the AI would need to be attractive and compatible with the creative process of design. At its core, this process is both incremental and iterative in nature. A designer wants to interact with and augment a proposed design, and stakeholders want to have their say. Compromises must be made. An AI that creates “finished” design proposals by taking in information and turning it into designs, is neither iterative nor incremental in nature. Rather than augmenting the process, it replaces the process, becoming a competitor to the designer, not a complement.”⁵

In *“Machine Learning: Architecture in the Age of Artificial Intelligence,”* Phil Bernstein writes:

“. . . refining and implementing those decisions [on preferred design scenarios] will remain far beyond the reach of their [computers] capabilities, and human architects will always make the final determinations of what is best.”⁶

And adds more explicitly:

“Notably absent from this list, save perhaps the last item, are systems tasked with generating entire design solutions (at any scale) for a project. A central thesis of this book is that such systems will not be useful until far in the future - if at all. They are unlikely to provide useful insights and present an unnecessary existential threat to architects.”⁷

Even Chat GPT Agrees! When I asked it whether AI was going to replace architects, it replied:

“It is unlikely that AI will completely replace architects in the near future. While AI and other advanced technologies are playing an increasingly important role in the design and construction industries, there are certain aspects of the architect’s job that require human skills and expertise.”

⁴ Chaillou, S. (2022). *Artificial Intelligence and Architecture: From Research to Practice*. Birkhäuser., pp 1295 Lang, Shelley and Associates, a fictitious firm homage to Fritz Lang and Mary Shelley, two artists who tried to warn us about technology.

⁵ Chaillou, S. (2022). *Artificial Intelligence and Architecture: From Research to Practice*. Birkhäuser., pp 165

⁶ Bernstein, P. (2022). *Machine Learning: Architecture in the Age of Artificial Intelligence*. RIBA Publishing., pp. 165

⁷ Bernstein, P. (2022). *Machine Learning: Architecture in the Age of Artificial Intelligence*. RIBA Publishing., pp. 118

In response to this slate of conclusions, my question is *why*? Why assume that these tools are being developed for architects, or that architects will be their eventual users? Architects are the logical users of such tools, for now, in the same way that elevator operators were the logical operators of elevators, for a brief time, even after the safety elevator was invented. But as the tools grow in power, sophistication, and importantly, user-friendliness, why wouldn't they just become tools of the *client*?

This core assumption - that the tools will be tools of architects, enables many other assumptions embedded in the cited passages above. When Danhaive & Mueller opine that "*the human experience of the built environment. . . will always be best understood by a human designer,*" by what evidence are we drawing that conclusion?

When Christiansen writes "*Rather than augmenting the process, it replaces the process, becoming a competitor to the designer, not a complement*" he implies that would be a bad thing. And it would, for architects. But others (real estate developers?) might consider it a good thing, worthy of capital investment and invention.

Bernstein lands lightly on what is probably the ultimate reason for the ubiquitous 1st assumption: "*the creation of a design generator capable of even simple buildings is likely to have unintended and unpleasant consequences for the profession.*"⁸

It would be bad for architects.

The invention of the safety elevator changed civilization and enabled the modern city. In its nascence, the safety elevator

protected the lives of elevator operators, too, but that's not whom it was for. No subsequent technological development of the elevator favored the operator, either. The elevator operator of old had several important, technological job requirements.

He had to:

- regulate the elevator speed - fast enough so that passengers wouldn't get impatient, but not so fast that passengers were made uncomfortable.
- regulate the acceleration of the elevator in similar ways.
- precisely calibrate both so that the elevator stopped in perfect level with the building floor level, so that riders wouldn't trip on their way out.
- open and close the doors only after he had judged the elevator to be in a safe, stable position.
- respond to calls from various floors, to make sure all passengers in both vertical directions weren't being asked to wait too long for a ride.

One by one, technological innovations eliminated these technical components of the elevator operator's role:

In 1909, when the Singer Building opened in New York City, it was the first to have an 'elevator supervisor,' who monitored elevator calls and controlled and directed departures from a central location. Elevator operators were no longer the pilots of their own vessels.

In 1924, Otis installed the first automatic signal controller, dramatically curtailing the role of both the elevator operator and the elevator supervisor.

⁸ Bernstein, P. (2022). *Machine Learning : Architecture in the Age of Artificial Intelligence*. RIBA Publishing., pp. 118

In 1929, the Houghton Elevator and Machine Co patented the first solid, automatic elevator door (until then elevators used manually operated gates, with obvious safety implications). The remaining safety responsibilities of the elevator operator were obviated. The elevator rider was then positioned to do everything that had been done by the elevator operator.

Such has been the general narrative of all technological advance: it eliminates professions by allowing someone who was previously the user to become the operator.



Assumption 2: New AI-driven Design Tools can be Integrated in Time

The second assumption is suspect because it presumes these technologies can be absorbed into an architect's practice at a pace meaningful to architects, clients, and the world at large. We are all struggling to keep up as it is, and the debut of new technologies will only accelerate going forward. The 'pace layer' of technology inherently moves independently from our ability to absorb it - personally and into our practices.⁹

The two move not only at different speeds, but at different accelerations. No one can absorb new tools into their toolbox faster than the time required to learn to use them. And if new design tools are being generated faster than architecture's learning curve, it seems unlikely that society will shelve such tools merely to keep architects gainfully employed. Given enough time, elevator operators may have learned some way to

⁹ 'Pace Layers' is a concept popularized by futurist Stewart Brand in his book *How Buildings Learn: What Happens After They're Built* (Brand, 1994), which was based on the concept of 'shearing layers' developed by architect Frank Duffy, former president of RIBA. Duffy's original concept saw a building as a set of components that occupy different timescales: Shell (30-50 years), Services (15 years), Scenery (5 years), and Set (every few weeks or months).

Brand expanded this concept to Site (Eternal), Structure (30-300 years), Skin (20 years), Services (15 years), Space Plan (3 years) and Stuff (Constant). He subsequently expanded the thinking beyond buildings, to the scale of civilization, and organized civilization around Nature, Culture, Governance, Infrastructure, Commerce, and Fashion.

Here, we mean that the pace of technological innovation isn't dependent on the pace of learning how to use them. The former is driven by culture, governance, infrastructure, etc. The latter is constrained by the human brain's biological limits, and professional culture. This allows technological innovation to grow faster than our ability to understand or use it, under certain circumstances.

co-exist with, and add their own value to, the safety elevator. But elevators evolved quickly: from menacing industrial deathtraps to ubiquitous interior features within a single human lifetime.

If these two assumptions prove faulty, does that consign an architect's role to the history books? To say we'll never be replaced by technology is naive. At the other extreme, to say we'll be imminently replaced is incendiary and reckless.

The McKinsey 3 Horizons approach offers a calm strategy for finding a middle ground. The key is to delineate between the 2nd and 3rd horizons - to methodically parse which technologies architects must grapple with here in the present, and which technologies we should keep a wary eye on for the future.

I arrived at a conclusion familiar to anyone who's studied the issue: the easiest parts of an architect's role to automate (and therefore the most at risk) were the ones farther down the design cycle. Bernstein provides a useful taxonomy, identifying some skills as requiring 'perceptive' knowledge (the most demanding - skills that are inherently creative, subjective and reliant on implicit knowledge) and others as requiring 'integrative' knowledge (the 2nd most demanding - skills that require an intelligent integration of procedural tasks to reach a measurable goal).

Areas of 'perceptive' knowledge would include:

- Analyzing and Understanding the Brief
- Generating Alternatives
- Evaluating and Selecting Alternatives

Areas of 'integrative to perceptive' knowledge would include:

- Getting, Assigning, Managing Staffing
- Managing Practice Operations
- Assigning and Coordinating Work
- Meeting, Managing Clients/Decisions
- Coordinating with Regulators
- Interfacing with Public/Communities

The only task areas that lie entirely within the 'perceptive' category are "*Analyzing and Understanding the Brief*" "*Generating Alternatives*" and "*Evaluating and Selecting Alternatives*," suggesting they are the hardest to automate, and will be the last to fall under the wheel of advancing technology.

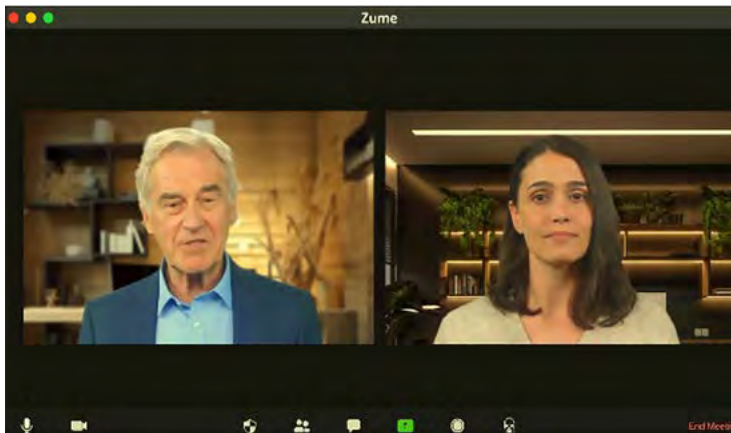
Interestingly, the three skills noted above would all fall under the general heading of 'translations.' To analyze and understand a brief, one must translate from spoken or verbal intent into a spatialized concept that expresses that intent. To generate alternatives, one must translate that spatialized concept into plans, sketches, and other information that can be evaluated by others. And to evaluate and select alternatives, one must translate in the other direction - taking visual and spatial representations and translating them back into the language of the client, to make sure the translation has been conducted faithfully.

How could all that possibly be imitated by a machine?

An AI Experiment

As it turns out, it was quite easy. I tried it myself in the form of this NLGAI-generated, hypothetical interaction between a client, her architect and his design team. An AI Architect, an AI Client, an AI Engineer, and an AI Contractor have plenty to talk about, apparently. Be forewarned, the video is 24 minutes long, but it should only take you a few minutes to understand the implications. All content in the video is AI generated, including the dialogue, the designs, the budgets, etc. See for yourself, and tune in for Part 2 for a further discussion on how the interaction was made, it's implications for practice, and thoughts on the future:

An AI-Generated Video Scenario: A CLIENT, her ARCHITECT, his ENGINEER, and their CONTRACTOR
[\[Click to Play the Video\]](#)



Part 2 of this series will be available next week. For those interested in an advance peek at how the video was made, we invite you to check out the [technical addendum](#), available now.

Eric J. Cesal is a designer, educator, writer and noted post-disaster expert, having led on-the-ground reconstruction programs after the Haiti earthquake, the Great East Japan Tsunami and Superstorm Sandy. Cesal's formal training is as an architect, with international development, economics and foreign policy among his areas of expertise. Cesal has been called "Architecture's First Responder" by The Daily Beast for his work leading Architecture for Humanity's post-disaster programs from 2010 to 2014. He has been interviewed widely on his work by publications such as The New Yorker, Architectural Record, Architect Magazine, Foreign Policy Magazine and Monocle.

Cesal is the co-founder of [Design for Adaptation](#), a strategic planning consultancy that combines strategic foresight and adaptation strategies to help clients design more prosperous futures. Cesal is also widely known for his book, "[Down Detour Road, An Architect in Search of Practice](#)" (MIT Press, 2010), which sought to connect architecture's chronic economic misfortunes with its failure to prioritize urgent social issues. He has taught at several of the world's leading design schools, including Washington University in St. Louis and most recently at the College of Design at UC Berkeley. There, he concurrently served as the director of sustainable environmental design. He is currently developing a new course for Harvard's Global Development Practice program called "Community-Based Responses to Disaster" to debut in the summer of 2023.

Cesal holds a B.A. in Architectural Studies from Brown University, as well as advanced degrees in architecture, construction management, and an MBA from Washington University in St. Louis.

IN THE FUTURE, EVERYONE'S
AN ARCHITECT (AND WHY
THAT'S A GOOD THING) PART 2



PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





In the Future, Everyone's an Architect (And Why That's a Good Thing) Part2

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Eric Cesal boldly explores the architect's role over time and the future impacts of artificial intelligence on practice.

EDITOR'S NOTE: This article is Part 2 of 2 in a series on AI, architecture and the future of practice. For full context, please visit Part 1 of 2 [link here]

We left off last week with a hypothetical interaction between an AI client, her AI architect and his AI design team, generated exclusively by Natural-Language Generative AI (NLGAI) platforms. If you didn't catch it, you can watch the video below.

[Click to Play the Video](#)



Question: Why Make an Instructional Video on How to Replace Yourself?

I made the video in an attempt to resolve the questions raised in Part 1 of this article. I already knew ChatGPT wouldn't act as an architect, but I wanted to understand whether it *could* act as an architect. If watching the video was at all unsettling, making it was even more so. Most unsettling was how easy it was to build. It merely required creating AI characters that could talk to one another without my help. After that, I hypothesized that the characters would do the rest. They did so and more. *Everything* in the video was AI-generated, including the characters, the images, the designs, the cost estimates. Even the dialogue was NLGAI-generated — both the questions each party asked and the answers each party relayed. The entire exchange was generated with off-the-shelf technology, which was either extremely low-cost or free.

My involvement in the making of the exchange was limited to two functions:

1. Initially, I was an author: I developed character sketches for each of the four characters. I gave them personality traits and motivations, as well as professional and personal backgrounds. Pointedly, I wrote no lines. I didn't advise Bob how to be an architect or Carla how to be a client.
2. Later, I was a facilitator: I passed NLGAI-generated content from one platform to another. The plans and images were generated by Midjourney, the design brief was generated by a combination of ChatGPT and GPT-4, and the avatars were generated by Synthesia. Other platforms played bit parts. I had to facilitate because no automation exists to pass instructions in between those programs (yet).



If watching the video was at all unsettling, making it was even more so. Most unsettling was how easy it was to build. It merely required creating AI characters that could talk to one another without my help.



A full technical addendum can be found [on my website](#) if there are questions about how the exchange was put together, but here's the more colorful version:

I began by asking ChatGPT whether it was going to replace architects. It answered no, of course.¹ But if I were a super smart AI, I probably wouldn't be honest about that question either.

¹ ChatGPT replied, "It's important to work with a licensed and experienced architect or builder who can help you navigate the complexities of the design and construction process. They will be able to provide you with the expertise and hands-on support you need to turn your vision for your new home into a reality."

² The full text read: "Meeting with clients: Architects often meet with clients to discuss their needs and preferences for a project. This can involve reviewing design concepts, making modifications to plans and providing guidance on construction costs and timelines.

Designing: A significant portion of an architect's day is spent designing buildings and other structures. This can involve creating plans and drawings, selecting materials and working with other design professionals to ensure that the final product meets the project's requirements.

Reviewing blueprints: Architects may spend time reviewing blueprints and other construction documents to ensure that they are accurate and meet the project's design specifications.

Coordinating with contractors: Architects often work closely with contractors and construction teams to ensure that the project is progressing according to plan. This can involve answering questions, providing guidance and resolving issues that arise during construction.

Researching and staying current: Architects may spend time researching new design techniques and staying up to date on building codes and regulations. This helps them to ensure that their designs are safe, efficient and up to code.

Attending meetings: Architects may attend various meetings throughout the day, such as project status meetings with the construction team, internal design meetings with other architects or design professionals, or meetings with clients and stakeholders."

ChatGPT was programmed by software engineers ("software architects" according to themselves), and they were the ones who stole our damned name in the first place! Understandably, I proceeded skeptically.

Any architectural professional should take some comfort that ChatGPT insisted it was not able to act as a substitute for the services of an architect. However, that just returned me to my original question: Was it "not able" because of constraints programmed by its creators, or did it genuinely not know what an architect does? My hypothesis was that it actually knew a fair bit about how to be an architect, but also understood that it wasn't supposed to dole out professional advice. So, I attempted to circumvent its programmed limitations. I asked ChatGPT what an architect might do in a typical day, it responded with six basic task areas:² meeting with clients, designing buildings, reviewing blueprints, coordinating with contractors, researching and staying current, and attending meetings.

I knew ChatGPT was off the mark when it stated that a "significant" portion of an architect's day was spent designing buildings. I wish! It also indicated an architect *may* attend various meetings throughout the day. I know architects who don't do anything *except* go to meetings. Dear Lord.

But I persisted with the experiment. One by one, I took every component of an architect's day (or what ChatGPT thought an architect's day looked like) and began to parse it into smaller pieces. I then used various software platforms to see if I could simulate those pieces. For much of it, off-the-shelf software solutions were available, and many readers probably already use them.

Again, the first item: Meeting with clients (in Bernstein's taxonomy, the "Meeting, Managing Clients/Decisions") seemed most antagonistic to automation, so I made that the principal focus of my experiment. Automating the client/architect interaction would require a conversational language model – one that could orchestrate a conversation with itself, on behalf of two or more parties, and avoid hallucinations.³ I created that model with a combination of ChatGPT, GPT-4, Google Sheets and a Google Sheets plugin called GPT for Sheets™ and Docs™.

To prime the model, I asked GPT to generate a list of questions an architect *might* ask a client during an initial interview and a list of questions a client *might* ask an architect they were considering hiring. I supplemented those lists with robust character descriptions of all four characters.

I arranged the conversation in Google Sheets such that the questions asked by one character would inform the responses of another, as well as generate additional questions (Figure 3).

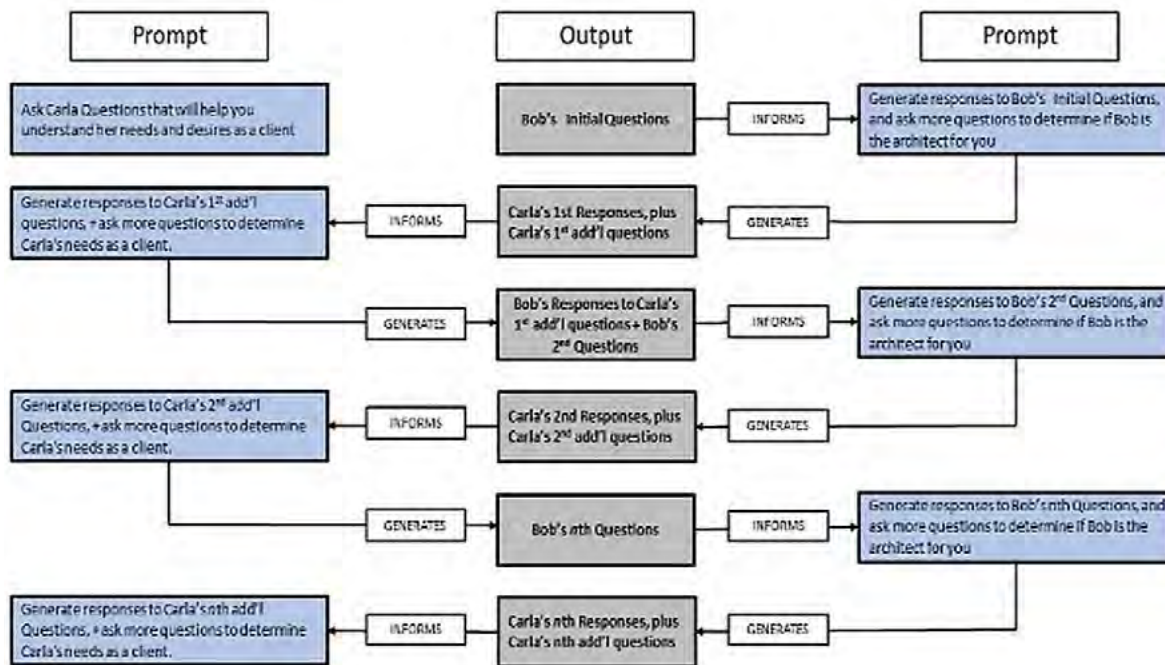


Figure 3: A Simulated Architect/Client Interview

³ "Hallucinations" occur when a large language model responds to your queries with something confidently (sometimes hilariously) wrong. They generally occur because the model isn't actually that smart, it's just well-read.

⁴ It's worth noting that I had to tell the program to stop. It could have gone on iterating indefinitely, drawing out more responses as well as a clearer vision of the project.

⁵ Although absent from ChatGPT, GPT-4 does seem to have some kind of spatial, world-building intelligence, which becomes accessible through other programming applications (not through the chat interface). It can, and does, create "mental" maps through spatial problems that can be visualized through other software. See Bubeck, Chandrasekaran, et al., "Sparks of Artificial General Intelligence: Early experiments with GPT-4," arXiv by Cornell University, March 27, 2023: 51, [arXiv:2303.12712v3](https://arxiv.org/abs/2303.12712v3).

⁶ I had to engineer the character's responses to reflect a faster reality than ChatGPT would produce, pointing to a serious limitation of the exercise: ChatGPT, because it was working off historical models, had no idea how fast design and construction might be done in the near-term future. It kept inserting dialogue into the conversation that reflected conventional schedule estimations. For instance, Bob kept suggesting that the CDs would take six months, which hardly seems plausible if we're contemplating a near-term future where much of the design work is automated.

I let the conversation iterate a while, until I felt the characters had asked and answered enough of each other's questions to form the foundations of a design brief.⁴ From there, it was simple enough to have ChatGPT generate the brief from the conversation, prompts for image generation (I used Midjourney V5), as well as a data model for the project that could be used in downstream programming applications like Python or Java.⁵ GPT-4 was also able to generate a room schedule, door schedule and construction cost estimate, merely from the conversation that it had itself generated.

Certainly, there were many clues that the dialogue and designs were imagined by a machine. I've never heard of a contractor refer to construction methods and materials as "construction methods and materials." There's a linguistic vernacular on the jobsite, which we all know. In her interview, Carla describes her timeline and then adds, "I understand that the design and construction process can be unpredictable" ... Not sure I've ever heard that from a client, especially upfront.

I was pleasantly surprised, though, at the machine's "intuition." The machine's estimation of construction realities was mostly on point.⁶ The original estimate of the construction cost was \$1.8 to \$2.2 million.⁷ To be clear, I did not feed ChatGPT any cost information. It inferred that information from the design brief and the location.

Similarly, when asked about the structural system, Doug the engineer suggested CLT or glulam as an alternative that could handle large cantilevers and also be done sustainably. Is that the optimal solution? Maybe, maybe not. We would need much more information. But if you were looking for a structural solution that could handle large cantilevers, accomplish a mid-century modernist aesthetic and have a low carbon profile, either would be a reasonable guess.⁸

I won't detail the remaining steps here, for brevity's sake, but will provide additional details in the [technical addendum](#). Suffice it to say, the further down the design cycle you go, the easier things become to automate. In most cases, AI-enabled software already exists to automate those parts of the job, we just lack the connective tissue to tie them into a continuous process, as I imagined in the video.

Practice Implications

This exercise began as a means to understand our own temporal context. An experiment. I developed the video partially as a provocation and partly out of my own curiosity. We are continually told that what we do as architects is so borderline magical that it could not be replaced or imitated by anyone who's not an architect, let alone by a machine.

The machine cannot replace the architect! The machine has no intuition, and it has no empathy. That's true, it doesn't. But it *appears* as if it does. And to be fair, I'm sure we all know a human architect that fits that description equally well.

⁷ That would put the mid-range cost around \$570/sf, which, adjusting for inflation back to 2021, seems plausible.

⁸ My assumption is that this guess was driven by Carla's emphasis on sustainability, as well as by her desire for a "mid-modernist" house and Bob's description of a cantilevered element.

⁹ We're already one step beyond that: Researchers at Osaka University recently hooked up an fMRI machine to Stable Diffusion, allowing participants to actually think an image into existence. See Yu Takagi and Shinji Nishimoto, "High-resolution image reconstruction with latent diffusion models from human brain activity," bioRxiv by Cold Springs Harbor Laboratory, March 11, 2023: <https://www.biorxiv.org/content/10.1101/2022.11.18.517004v3>.

What are the implications for practice? That's an unsettling question. Is there a possibility for an Architect Chatbot? The worst-case scenario would go further: It would be a "full-stack" automated architect, which would allow a nonprofessional client to submit to an interview process, conducted by a NLGAI, which could draw out his or her design intentions and desires.⁹ The "full-stack" automated architect could translate that conversation into the information necessary for other programs to design and execute a building, supplanting the eternal role of the architect as a universal translator between owner, specialists, builder and material.

Beyond any technological developments so far, NLGAI represents a sea change and an emergent threat because it displaces the architect at the exact point in the value chain where he had been most secure. It suddenly raises the possibility of a full-stack automated process because laypeople no longer need architects to translate their vision into reality.

¹⁰ *Multi-Criteria Optimization (or Multi-Object Optimization) is the process of optimizing solutions for multiple constraints. As applied to architecture, a set of constraints is specified (e.g., maximize FAR, minimize embodied carbon, minimize cost, etc.) and the algorithm will iterate through BIM models to determine which is the optimal solution. As an added layer of complexity, machines would have to pursue "multi-fidelity" optimization to imitate what an architect does, meaning it would have to apply a different framework of optimization at successive levels of optimization. In the earliest stages, it would be sufficient to explore blunt criteria (e.g., the structure could be "metal" or "wood" or "stone") but at successive stages of optimization, the framework would have to switch to evaluate different expressions of those choices (e.g., CLT vs. open web steel joist), and, finally, an algorithm would have to evaluate detailed choices against the original criteria (e.g., does a 24" open web steel joist, when part of a completed BIM model, predict that a completed BIM model using CLT would have a higher or lower embodied carbon score?). It is insufficient to merely ask whether one structural solution has a higher or lower embodied carbon score than the other, because the choice of structural system drives other choices that have their own carbon implications.*

The consensus around this possibility seems to be "not likely." However, given that I managed to develop the language model in under a day using free software, I would say we should at least be concerned about it. Subsequently, we must examine to what degree the two dubious assumptions outlined earlier corrupt our thinking. To do so, let's examine five arguments against imminent automation:

Analysis: Arguments Against Imminent Automation

Argument 1: AI Is Too Complex

If design is the process by which we resolve overlapping, sometimes contradictory criteria toward some abstract goal, it's easy to understand how even a handful of design criteria (minimize cost, minimize carbon use, maximize floor area) creates thousands of permutations. When the design brief is expanded to encompass the full range of criteria with which an architect is asked to contend, as well as the full company of stakeholders whom he is asked to attend to, we can easily imagine how the possible permutations of a design extend into the millions or billions. Far too much for a computer to handle!

The Good News

From a computing standpoint, this appears to be true, for now. In talking with several researchers, efforts at multicriteria optimization primarily find computing power as their limiting reagent.¹⁰ Most people (even professionals and academics) don't have access to the kind of computing power necessary to perform such operations on a building design of any complexity.

The Bad News

Computing power is increasing all the time and not necessarily at a linear rate – or even a predictable one. Even as Moore's

Law shows signs of slowing down from a physical standpoint, advances in algorithmic design and cloud computing allow us to have more effective computing power, even with the same hardware. It is inevitable that computing power will catch up to the complexity. At what point it becomes cheap enough, and efficient enough, to mimic the performance of a human architect remains to be seen.

Argument 2: AI Isn't Creative

Assuming we mean “creating novel solutions to novel problems” or even “creating novel solutions to well-understood problems,” the argument is that computers, even stronger forms of AI, are ill-equipped to perform such feats.

The Good News

In a sense, this is correct, but this heavily depends on what we define as “creative.” Current weak-AI models are essentially very powerful, but rote prediction machines. They look for patterns and on the basis of those patterns try to predict what's next. Therefore, by definition, they would be structurally incapable of doing something unpredictable.

The Bad News

That door swings both ways. A basic machine learning algorithm is fundamentally using statistical prediction models against known examples, but that doesn't mean that it can't devise wholly novel solutions, from the standpoint of the user. Its ability to generate solutions millions of times faster than a human suggests that it will, through sheer randomness, come up with solutions that are novel. Models like Reinforcement Learning allow for even greater “creativity” by corralling random accidents toward a desirable goal, exactly as a human scientist would.

But perhaps more saliently, this presumes clients *want* creativity. In the U.S., estimates vary, but roughly 98% of buildings are designed without the involvement of an architect, and the public seems hardly outraged. Much of what the public relies on in their architects isn't creative problem-solving, but the reliable application of expert technical knowledge and the resolution of problems that, while known, are too complex for the layman to understand or solve. This is exactly the domain in which computers excel.

Argument 3: AI Lacks the “Soul of an Architect”

What's fundamentally abandoned is the architect herself. That under such automated processes, none of the architect's intuition, whimsy or “style” find its way into a design. An architecture of the future, designed by AI, comports almost perfectly with Baudrillard's notions of hyperreality – a state he defined as “the generation by models of a real without origin or reality.”

In this future, AI would just keep generating architecture based on past architecture and eventually start generating architecture based on other architectures designed by other AIs. Do we really want to remove humanity from architectural design? Even if we could code for the social, moral and humanistic qualities of architecture, would we want to? One thousand years from now, would we have anything to look back on? Or just riffs on riffs of something that used to be human?

The Good News

My sister bought a house a few years ago, and upon my first visit, I immediately recognized that it bore a striking resemblance to the house the two of us grew up in. The interior

layout, the organization of the kitchen, the color of the cabinetry all matched, despite the two houses having been built 1,500 miles and 30 years apart. I asked her, “You bought this house because it reminded you of Dad’s house?” and she laughed at the obviousness of the question. A human architect would understand that. And I think that clients want architects who understand those sorts of things. Even if an AI could create a more optimal solution, from a technical standpoint, clients may favor the human interaction and understanding that a human architect brings.

The Bad News

José Pinto Duarte, the Stuckeman Chair in Design Innovation at Penn State University, and his team have been pioneering the development of “shape grammars” for particular architects and “generic grammars” that include the styles of many architects. By analyzing the existing plans of existing architects, one can develop spatial algorithms that reflect an architect’s particular style and aesthetic.¹¹ So while you may not get face time with Álvaro Siza, his design expertise can be applied to your house all the same.

Stanislas Chaillou has explored something similar using Generative Adversarial Neural Networks (GANs) trained

on specific historical styles (baroque, row house, Victorian suburban house and Manhattan unit). Each style contains a functional set of rules that govern layout. Such rules may be understood by a human architect at an intuitive level – that is, an architect can look at a floor plan and assess whether it’s a Victorian suburban house or a Manhattan unit. A GAN learns those rules in a different way but understands them nonetheless and is capable of reproducing them.¹²

Argument 4: The AEC Value Chain Is Too Fragmented

The AEC industry’s disciplines are historically separated by vastly different professional training regimens and professional cultures. Because liabilities in these fields are so high, and margins are often low, many of the disciplines in the AEC industry maintain their fiefdoms ferociously and independently. Thus, they have been pursuing automation independently as well, and cooperation across disciplines doesn’t look likely.

The Good News

A survey of the current penetration of AI into AEC practices will find ubiquitous examples of automation happening here and there, but very little automation across disciplines.

This makes it difficult to innovate in a unified way. Moreover, none of the actors within the AEC value chain have a dedicated interest in seeing themselves replaced. General contractors may try to implement AI to improve their contract performance, but they’re not looking for ways to help architects do their jobs better.

¹¹ Prof. Duarte’s initial experiments were developed on the work of Álvaro Siza and his Quinta da Malagueira Housing Scheme, wherein Prof. Duarte taught a machine-learning program to read and interpret the spatial grammar of Siza’s designs. The program was so faithful to Siza’s approach that when Siza was confronted with the algorithmic-generated designs, he couldn’t distinguish between those he had designed and those that had been designed by an algorithm based on his work.

¹² Stanislas Chaillou, “A New Frontier for AI in Architecture,” *Architecture & Style*, Harvard Graduate School of Design, 2 June 2019, <https://www.gsd.harvard.edu/2019/06/a-new-frontier-for-ai-in-architecture/>.

The Bad News

NLGAI represents a novel technological possibility to finally have the entire AEC value chain speaking a single lingua franca. For millennia, one of the impediments to greater efficiencies in the AEC value chain has been the divergent dialects, customs, trainings and cultures of its different actors.

Even within architecture, we have different “dialects” in the form of sketching, modeling, speaking, writing about design, etc. These are all quite different modes of communication. We could be speaking, sketching, modeling about the exact same building, and those outputs may only be understood by single parties. It was from here that an architect derived his or her value, because it was he or she who could look at a written description of the project, a sketch of the project and a detailed specification of the project and unite those into a mental model that could then reproduce the project, in as many dialects as necessary, to communicate the project to the diverse actors within the AEC value chain.

Advanced Large Language Models (LLMs) like GPT-4 are now capable of understanding and speaking all those dialects. Embedded with computer vision, they can understand and interpret 2D representations. Integrated with Whisper (another application by OpenAI, the inventors of ChatGPT) they can understand and reproduce human speech. They can serve as the universal translator between clients, architects, drawings, models and contractors.¹³

Argument 5: AI-Generated Architecture Would Be Illegal

Generative AI raises philosophical and legal questions that are too broad to cover here. If a Generative AI designs a building

and it collapses, is the software engineer then liable, in the way that an architect would be? If the software engineer isn't responsible, then who is?

Being an architect is a position of public trust. It's understood that architects have a specialized knowledge that's critical to public welfare, and that only architects have that knowledge. However, if a machine now has more knowledge than all the architects put together, should we trust it instead, knowing that it cannot understand the moral consequences of its choices?

The Good News

Given the general wariness around AI, and our overly litigious society, it seems unlikely we will leave this issue to legislative chance. We (the design-consuming public) want to know someone (a human someone) is responsible for the choices made in a design, and by extension, the money we paid for the building. Cynically, letting AI do the designing leaves us with no one to blame when things go wrong.

The Bad News

This optimism rests on the institutionalizing of architectural practice by law. Architects exist because we passed a law that says that they must. If that law were removed, humanity wouldn't give up on buildings and start living in caves – they would just find other means to get their buildings designed. It seems radical, unless you consider ongoing efforts to de-professionalize and delicense professionals.¹⁴

¹³ *More on this in the technical addendum, under “Autonomous AI.”*

¹⁴ *Re: Ron DeSantis' recent attempt to delicense interior architects in Florida: Delicensing has been present in the neoliberal platform from its inception. Milton Friedman advocated for letting the market determine competence and restricting the state's role in granting professional licenses. The issue of AI in architecture likely applies equally to all political persuasions.*

Worse still, it is certain that the self-driving car industry (among others) will have resolved many of these issues long before architects encounter them. Once we trust AIs to drive cars, planes, administer medical treatments, etc., we will probably end up trusting them to design buildings too.

Architects, Machines and Management

The bad news scenario is hardly conclusive, but in keeping with our SFP/Three Horizons model, it represents seeds of the future, in the present. The bad news is merely an extrapolation of technology that exists today. It signals a revolution unlike anything we've seen before, because NLGAI represents a potential displacement of the eternal dynamic between architect and client. It represents at least the possibility that a layman client (or anyone) could speak freely and naturally "into the machine" and have their vision realized, without any human architect as translator.

The good news is that the technological arresters under the good news scenario are very real. So much so that they defined the dual roles I played in this exercise:

1. Coordinate inputs and outputs from one AI platform to the next.
2. Supervise the outputs at each stage of the process to make sure that they gelled with my own experiences as an architect.¹⁵

The roles could also easily be an architect's job description in the near future. As more and more processes become automated, the architect will have to shift from a doer of things to a manager of semi-autonomous AIs who do the things we used to do. Since the invention of the wheel, all technological

progression has followed this trajectory. We invent machines to do the work we do today, and then tomorrow we find other work to do since we don't have to churn butter or do logarithms by hand anymore.

With all this new free time, what shall we do instead? I see only one answer: We focus on the problems of the built environment that have never been solved before and leave the pedestrian aspects of architectural work to the machines. Instead of coordinating CDs, reviewing budgets and detailing windows all day, we could figure out how to:

- Reduce the carbon footprint of all new buildings to zero.
- Relegate the use of concrete to the ash bin of history, where it belongs.
- Solve the housing crisis brewing in the Global South, which will require as much new housing as has been built in the last 200 years. Would platforms like the one described in the video enable every one of those households to have a home tailored to them, without repeating the mistakes of the 20th century's various utopian social housing schemes?
- Migrate some of the world's largest, oldest cities away from the coastline and save them from advancing sea level rise.
- Create whole new cities based on a post-petroleum future.

¹⁵ Had ChatGPT responded that the budget for the house would be \$250,000, I would have known something was wrong. Two million dollars for a custom home in the Bay Area is quite low, but I considered that the ChatGPT model had been cut off in 2021, and adjusting for inflation, maybe it wasn't a completely crazy response. Likewise, CLTs for a sustainable house with large cantilevers seemed to make sense. Not the only way you could have designed that house, but a reasonable guess. I used my professional intuition as an architect and a builder to gauge whether the work product the process was producing was on the level, so to speak.

Action Required

To claim this future, we need to do two things:

1. We must divorce our current understandings of the term “architect.” This should be easy. Since the general public has never really understood what we do, we can just emulate their behavior. However we each might understand the word “architect” (and it is surely different for every reader), we should create some headspace to ask how much longer that understanding can remain true. This is the third horizon – being willing to examine the small seeds of the future here in the present, even if they seem inconsequential and especially if they seem threatening. In 20 years’ time an architect may do nothing except create spaces for the metaverse. I’m not saying that’s a future I want or endorse, but without some plasticity in how we collectively imagine “architect,” we’ll inevitably be anchored to a past with questionable relevance to any future. This in turn requires a divorce from the “faster, better, cheaper” spirit with which we embraced CAD and, subsequently, BIM. If we merely view AI as an opportunity to do what we’ve always done, just faster, better and cheaper, we may find the machines do the tasks faster, better and cheaper without us.
2. We must find new ways to create value. Architects have always struggled with defining the value proposition of architecture; clients and partners have told us this for years. Perhaps it’s because we’re educated in such siloed environments or because we have enjoyed the aegis of professionalized licensure for 125 years, but we must change our tunes.



The bad news scenario is hardly conclusive, but in keeping with our SFP/Three Horizons model, it represents seeds of the future, in the present.



We need to find ways to create value for architecture and not just architects. Claiming that my value proposition as an architect is that I'm better than that other architect over there, and since you have to choose one of us you should choose me as the higher value option, doesn't make the case that either one of us is valuable. Value is relative, and in the near future, the more valuable option might be to have an AI design your building and leave the human architects to bicker among themselves.

Historically, medicine and law reinvented themselves when faced with technological and social imperatives. We should do the same, or someone else will do it for us.

For a full technical breakdown of the video, and how it was made, we invite you to visit the [technical addendum](#), available now.

Eric J. Cesal is a designer, educator, writer and noted post-disaster expert, having led on-the-ground reconstruction programs after the Haiti earthquake, the Great East Japan Tsunami and Superstorm Sandy. Cesal's formal training is as an architect, with international development, economics and foreign policy among his areas of expertise. Cesal has been called "Architecture's First Responder" by The Daily Beast for his work leading Architecture for Humanity's post-disaster programs from 2010 to 2014. He has been interviewed widely on his work by publications such as The New Yorker, Architectural Record, Architect Magazine, Foreign Policy Magazine and Monocle.

Cesal is the co-founder of [Design for Adaptation](#), a strategic planning consultancy that combines strategic foresight and adaptation strategies to help clients design more prosperous futures. Cesal is also widely known for his book, "[Down Detour Road, An Architect in Search of Practice](#)" (MIT Press, 2010), which sought to connect architecture's chronic economic misfortunes with its failure to prioritize urgent social issues. He has taught at several of the world's leading design schools, including Washington University in St. Louis and most recently at the College of Design at UC Berkeley. There, he concurrently served as the director of sustainable environmental design. He is currently developing a new course for Harvard's Global Development Practice program called "Community-Based Responses to Disaster" to debut in the summer of 2023.

Cesal holds a B.A. in Architectural Studies from Brown University, as well as advanced degrees in architecture, construction management, and an MBA from Washington University in St. Louis.



CONTEXT: IT'S NOT ABOUT YOU

PRAGMATIC DESIGN

Q2: CONTEXTUAL AWARENESS





Context: It's Not About You

Bob Fisher

Principal, DesignIntelligence

Smart firms are taking a new approach to connect with clients.

Architects and designers are attuned to context when they create. Their work incorporates layers like a site's topography, immediate environment and history, local culture, weather patterns, social and political considerations, regulatory limitations, project economics and more. Over time, managing this sort of complexity becomes natural. Context is integrated into design practice.

Mastery of context is also valuable in running a design enterprise. Complex factors like talent, finances, operations, marketing, leadership and culture make up the context of a professional practice. Understanding how to integrate them is essential to building a great firm. Many leaders in architecture and design get this idea, and you see it in healthy, well-run firms.

In the past decade of working with professional practices, I have seen one area where plenty of firms still struggle with context. It's in connecting what they do to the needs of their markets, which is the foundation of how they position themselves and win work.

In the traditional approach, firms frame their understanding of the client's world through the lens of architecture and design. They focus on the object – buildings, interior spaces and designed outdoor environments. Not that the client and their goals and challenges are ignored. Such firms simply see the client's world through their own context, and it is reflected in their marketing communications and how they talk about their work.

Some hallmarks of the traditional approach:

- Explaining the fundamental client need through what the firm provides, e.g., saying they came to the firm for a new surgery center, dormitory or corporate headquarters.
- Talking first about design features and client concerns as rationale for design decisions.
- Emphasizing statistics like total square footage and construction budget.
- Showcasing beauty-shot photos of the building, rooms and exterior environments that are devoid of people, except when included for scale.
- Using architecture and design jargon to talk about projects and the firm's philosophy or approach.
- Beginning most statements with “us” or “we.”

The underlying assumption in this traditional mindset is that clients award projects based primarily on the quality of the designed object or environment. The firm's job is to explain itself clearly and present its work appealingly. In such a world, the firm that wins is the one that preens most effectively.

Ten years ago, when I focused my research and advisory work on the built environment industry, the traditional approach seemed to dominate. In the past several years, I've seen a better

way become more prominent. Firms have begun to invert the frame. First, they demonstrate an understanding of the client's context, then they present themselves and their work from within it.

Hallmarks of the client-first approach include:

- Articulating fundamental client needs through what matters most to them, e.g., their mission, business objectives and changes they wish to make in their organization.
- Presenting the firm's work through the same lens of client mission, business objectives and desire for change.
- Placing the client at the center of the firm's design process, i.e., articulating it through how the client will participate or contribute and what they will experience.
- Framing their marketing first on issues and topics that are relevant to the client, second on how built environments may help.
- Using clear and simple language.
- Beginning with the second person (“you”) in most cases; keeping the “conversation” focused on the client.

Most readers will see what I've written and think, “We're already doing that.” In some cases, they are right; in many others, they only think they are. To test their approach, I ask them how they begin client interviews. Usually, they respond that they give an overview of the firm's capabilities, relevant experience and successful projects, then knit all that together with what they believe the client needs and wants. Seems logical, but whether or not they are aware of it, they frame the discussion on themselves. It's a safe bet that their web copy, cover letters for proposals and other marketing collateral take the same approach.

It is not that firms who tend toward the traditional approach ignore their clients. They usually care deeply and are dedicated to serving their clients well. The challenge is that they still think first of how they can help their clients, rather than beginning with their client's context.

Clients see the world through their own context and that of their customers. They see your design firm through their own mission, goals, aspirations, limitations, challenges and pain points – and how well you can help them navigate that landscape.

Meet them where they are and you'll earn their trust – and their work.



Firms have begun to invert the frame. First, they demonstrate an understanding of the client's context, then they present themselves and their work from within it.



Bob Fisher is a principal with DesignIntelligence. In addition to a decade of focus on architecture, design, engineering and construction, he spent more than 20 years in brand, marketing and communications for the entertainment, education, technology and manufacturing sectors.

OBSERVATIONS

“Recognizing the need is the primary condition for design.”

- Charles Eames

“As an architect you design for the present, with an awareness of the past, for a future which is essentially unknown”

- Norman Foster

“A proper building grows naturally, logically, and poetically out of all its conditions.

- Louis Sullivan

“Let us not look back in anger, nor forward in fear, but around in awareness.”

- James Thurber

“The first step toward change is awareness. The second step is acceptance.”

- Nathaniel Branden

“The frame, the definition, is a type of context. And context ... determines the meaning of things. There is no such thing as the view from nowhere, or from everywhere ... Our point of view biases our observation, consciously and unconsciously. You cannot understand the view without the point of view.”

- Noam Shpancer

“Reality is not a function of the event as event, but of the relationship of that event to past, and future, events.”

- Robert Penn Warren, *All the King's Men*

“The key to growth is the introduction of higher dimensions of consciousness into our awareness.”

- Lao Tzu

Redefining an Understanding of Leadership

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88%

of current senior leadership admitted they didn't adequately invest in their own ongoing professional development

92%

of organizations were found to not adequately prepare their next generation for leadership

67%

of senior leadership indicated their failure to demonstrate and demand collaboration across their organizations

2023 SuperCast

FORGOTTEN RELEVANCE?

This year's SuperCast will be presented as a summer video series beginning in July 2023. We'll speak with historians, educators, and architecture and engineering professionals from around the world to go back to the basics and learn what we must maintain in the practice of architecture and design to ensure sustainable relevance without forsaking the foundations.

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A graphic of a water splash with a central droplet and concentric ripples, centered on the page.

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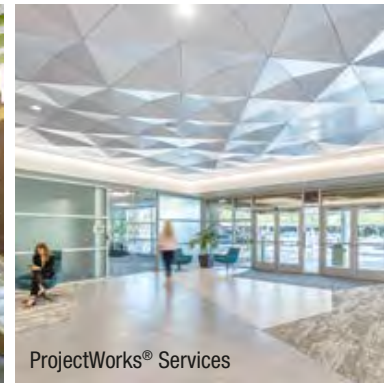
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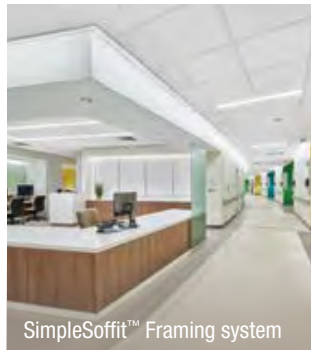
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