Inclusive INTERDEPENDENCE
2021 Q3

DesignIntelligence® Quarterly

CONTENTS

CONTEXT: Inclusive Interdependence

In the third Quarter of 2021's COVID-19 recovery, DesignIntelligence continues our alliterative investigation of Introspection, Interaction, Interdependence and Innovation with a deep dive into Inclusive Interdependence. Building on the momentum of the first two quarters we explore the myriad ways in which design and construction professionals need and rely upon one another as humans, along with the inclusion and interdependence of a myriad of factors such as environmental, economic, pandemic, and social forces. These inquiries serve as antecedents to our Q4 focus on Radical Innovation.

DI President and CEO Dave Gilmore opens the discussion with an examination of Interdependent Relationships. My article, A Declaration of Interdependence reflects on the failings of the modern masters, the challenges of practicing in a complex connected world, and – borrowing from a diverse group of forbears ranging from our Founding Fathers to Gil Scott-Heron - issues a bold borrowed call for revolution in pursuit of a connected profession.

Scott Simpson's take on the connectedness of things in the physical world discusses Life in a Bowl of Jello. From Gresham Smith, Jeff Kuhnhenn offers advice on how multiple perspectives can enhance the design process in Learning to Listen.

From engineering firm IMEG, Paul van Duyne, Adam McMillen, and Mike Lawless share their approach to Equity by Design. From Overland Partners, firm owner Rick Archer shares his firm's path to diversity in his essay The Power of Many. To present the panoply of perspectives of manufacturers, providers and patients, Interwoven's Kim Montague offers Inclusive Interdependence in the Healthcare Context.

Dr. Sharon Egretta Sutton, one of the earliest leading voices in the areas of diversity advocacy and activism over the past eight decades, admits us into her inner sanctum to share her life's journey and deepen understanding around what must be done in her reflective piece Threading the Needle of Opportunity.

Last but not least, regular contributor Paul Hyett, fresh from his own ongoing post-Brexit, COVID-19 and Grenfell disaster recoveries in the United Kingdom, examines responsible leadership in his essay Inescapable Interdependence: No Man Is An Island.

We hope you open your minds to the discussion, engage with these subject matter experts and carry their mantles back to your colleagues, firms and communities. As always, we welcome your input. Contact us at mlefevre@di.net

Michael LeFevre, FAIA Emeritus
Managing Editor, DI Media Publications

2021 EDITORIAL ROADMAP

Radical
INNOVATION Q4
- New Values
- People, Process, Technology
- Breaking Boundaries
- Wicked Solutions
- Transformative Leaps

Multidimensional
INTROSPECTION Q1
- Truth (Facts/Sciences)
- Honesty
- Sights/Senses
- Recovery, Reflection & Redirection

CLARITY

GLOBAL GEOPOLITICS • ENVIRONMENTAL DYNAMICS • DISRUPTION • INVESTMENTS • SOCIAL EQUITY, DIVERSITY AND INCLUSION • LANGUAGE • RISKS • DOMESTIC POLITICS

Q4 Q1 Q3 Q2

Inclusive
INTERDEPENDENCE Q3
- Reuniting
- Symbiotic Relationships
- Mutual Benefit
- Synergistic Alliances

Professional
INTERACTION Q2
LEVELS:
- Personal
- Firm
- Industry
- Cross—Industry
- Community & Global

Life in a Bowl of Jell-O

SCOTT SIMPSON

Senior Fellow, Design Futures Council

Life in a Bowl of Jell-O

Connections across space and time

On May 21, 2019, something unusual happened. For the first time in history, astrophysicists detected the physical existence of gravity waves, which were originally predicted by Einstein's Theory of Relativity more than a century ago. These gravity waves resulted from the collision of two massive black holes — objects many times the size of our sun that are so dense that not even light can escape their gravitational fields. The collision was like ringing a gigantic "cosmic bell" — it sent ripples of gravity throughout space-time that were detected on Earth by two Laser Interferometer Gravitational-Wave Observatories ("LIGO"), one in the U.S. and one in Italy, each of which is several kilometers long. The technology used is so exquisitely sensitive that it can measure something as small as the width of a human hair as far away as the next-nearest star. The collision occurred about 7 billion years ago, when the universe was half as old as it is now.

Why do we care? Because there is no better way to illustrate that nothing exists in isolation. Everything is connected to everything else. The mere presence of a single object anywhere in the universe — no matter how tiny or distant — has a palpable effect.

Of course, not all objects or actions are equal. Some are so small that they elude detection entirely, and some are so large that they are inescapable. We see this daily in the ocean tides, which result from the moon's gravitational pull. Nothing and no one are immune to its influence.

Perhaps the most compelling recent example of how closely we are all connected is the COVID-19 pandemic. From a single city in China, the virus spread inexorably around the world in a matter of months, facilitated in large part by a robust network of roads, ships and airplanes that transport goods, services and people quickly, easily and cheaply.

While different countries were affected in different ways, not one was spared. Even those who managed to escape direct contact with the virus were profoundly influenced by the economic and social shocks that resulted.

Where there are problems, there are always opportunities. If universal connectivity was a major driver for the rapid spread of the deadly virus, it was also the reason effective therapeutics could be developed so quickly, as thousands of scientists from many countries collaborated in an intensive effort to develop viable vaccine candidates. Their success in such a short amount of time was unprecedented in the history of medical research.

The phenomenon of universal connectivity has important implications for architects and designers, who deal in large objects called buildings. Buildings are created by assembling many disparate parts and pieces from far-flung sources into organized, integrated wholes to provide shelter and support

"

The phenomenon of universal connectivity is a fact of life; it's what makes us possible. This is an important perspective for architects, designers, engineers and constructors to keep top of mind.

for a wide range of human activities. When occupied, buildings bustle with energy; they facilitate interactions of all kinds among the many people who live, work and play within them every day. Even when unoccupied, buildings consume energy and actively stand guard to protect their contents against the elements. Buildings may seem static, but they exert profound influence on everything that takes place within their walls.

Over the past several decades, the design community has begun to grapple with a new responsibility: to recognize the impact the built environment has on the natural world and address ways to mitigate the negative impacts. Today, construction activities account for about 45% of carbon emissions worldwide, and we now understand that buildings are responsible for a significant contribution to global warming. This has caused designers to carefully consider what kinds of materials to use and how to use them. There is no getting around it: to support growth, development is unavoidable. As widespread urbanization accelerates (more than half of Earth's population will live in cities by 2050), things must get built. Thus, the question is not whether to build, but how to do it in responsible, sustainable ways.

A burgeoning population requires more food, more goods and services, more education, more healthcare, more clean water and so forth. Extracting raw materials, manufacturing and producing energy have unavoidable environmental consequences, and so we must learn to plan, design and construct with more care. As we do so, we are beginning to see a shift from individual short-term thinking ("what's good for me?") to collective, interdependent, longer-term thinking ("what's good for the planet?").

The good news is that despite the negative press about rampant pollution, we are actually making remarkable progress.

▶ For example, since 1980, oil spills from tanker ships have decreased by more than 99%, from 636 tons to six tons annually.

636 (1979) tons spilled

6 (2016)

1980   1990   2000   2016
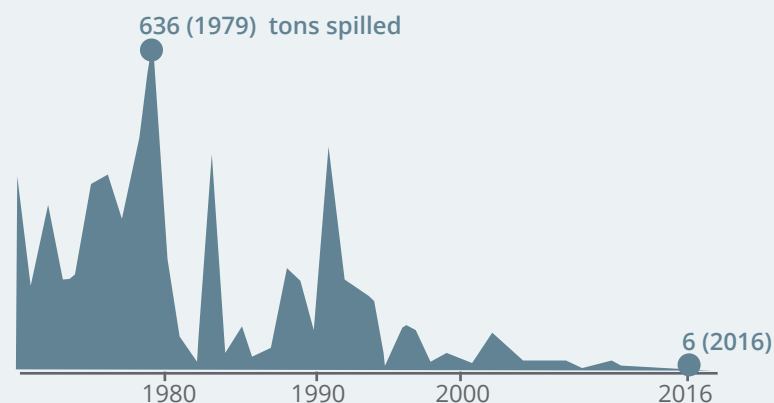
Source: ITOPF

▶ The cost of producing solar panels has plummeted from $66 ($/Wp) to just 60 cents in 2015.

$66 (1976)

$0.6 (2016)

1980   1990   2000   2010   2016
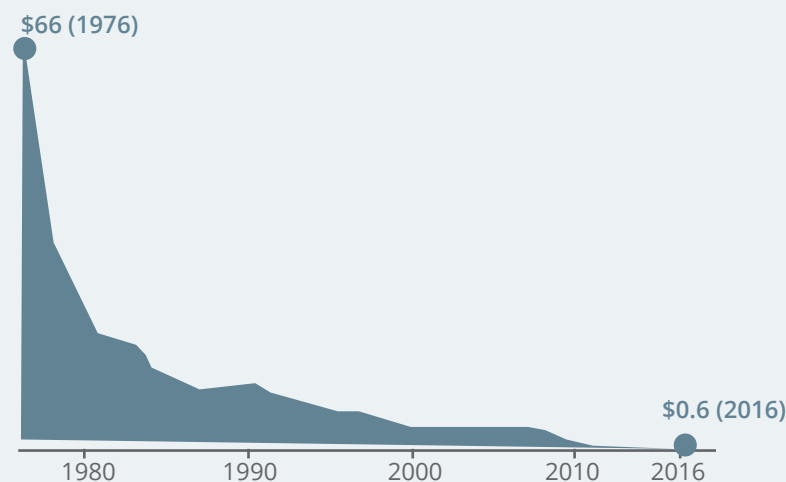
Source: Our World in Data based on Lafond et. al. (2017)

▶ Since 1970, smoke particles in the atmosphere have dropped by more than half, from 38 kilo-grams per person to just 14 kilograms in 2010, and ozone depletion is down from 1,663 tons of ozone-depleting substances used to a mere 22 tons in 2016 (a reduction of 98.6%).

38 kg (1970) SO$_2$ particles emitted per person

14 kg (2010)

1970 1980 1990 2000 2010
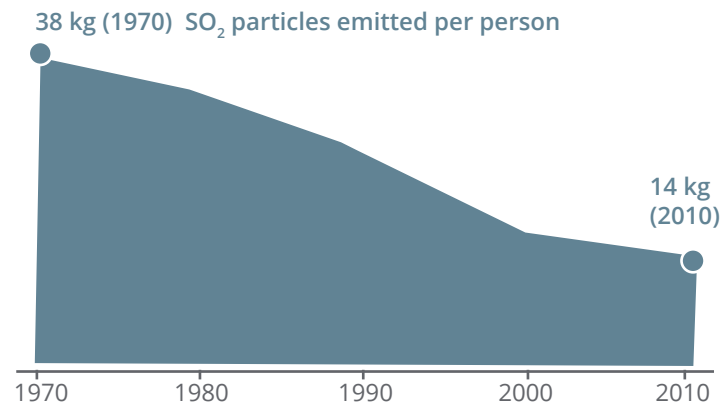
Source: Gapminder, Klein Goldewijk, & UN-Pop

1,663 (1970) tonnes ozone-depleting substances used

22 (2016)

1970 1980 1990 2000 2010
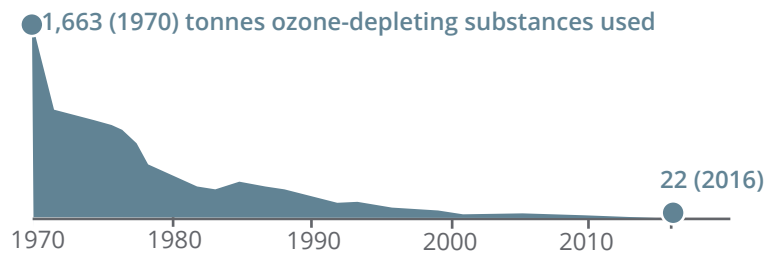
Source: UNEP

▶ On the bright side, the share of the Earth's surface that is protected by national parks and other reserves has increased from 0.03% in 1900 to 14.7% in 2016.

Share of Earth's land surface protected as national parks and other reserves   **14.7% (2017)**

0.03% (1900)

1900 1950 2000
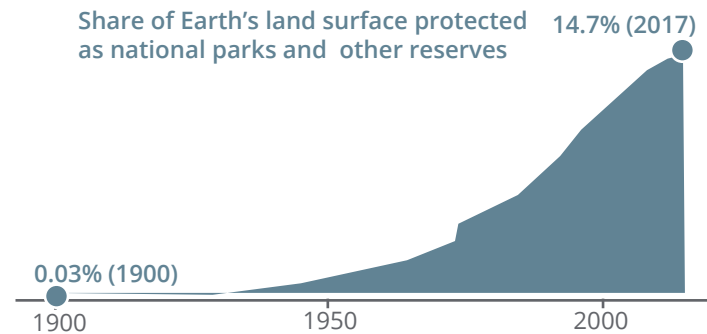
Source: Gapminder based on Abouchakra UNEP

▶ Harvest yields are up by 280%, from 1,400 kilograms per hectare in 1960 to 4,000 kilograms in 2014.

4thousand kg per hectare (2014)

1.4 (1961)

1970 1980 1990 2000 2010
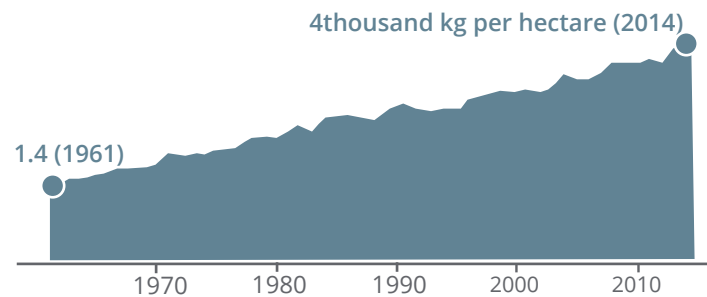
Source: FAO

▶ Immunization rates have spiked from 22% in 1980 to 88% in 2016.

Share of 1-year-olds who got at least one vaccination 88% (2016)

22% (1980)

1980   1990   2000   2010

Source: Gapminder
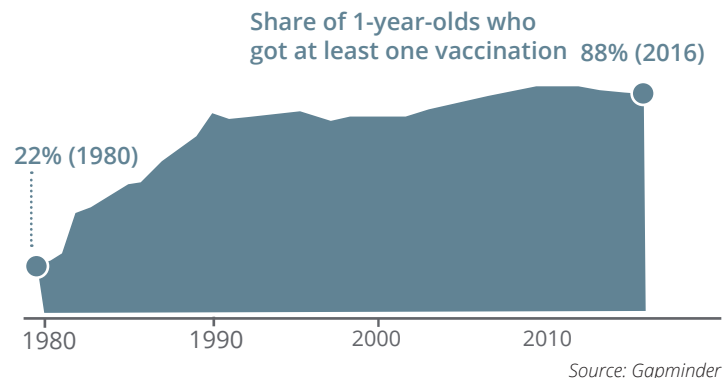
▶ Even the number of people with access to clean water is on the rise, from 58% in 1980 to 88% in 2015.

88% (2015)

58% (1980)

1980   1990   2000   2010

Source: WHO, WHO/UNICEF, MP & World Bank
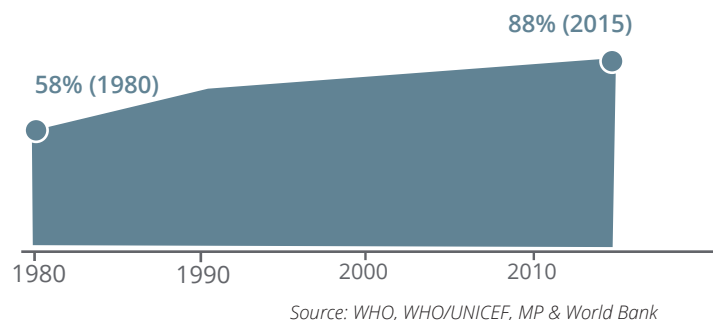
Those metrics indicate significant progress, much of which has not been widely reported by the media. The data suggest that while human beings are very good at creating problems, they are even better at solving them.

Here's another important date: July 20, 1969. That's when Neil Armstrong first set foot on the moon. On the return trip, photos were taken of "the blue marble" — images of Earth from space that offered a perspective never before seen by humans. Viewed from space, the Earth may seem isolated and fragile, but in fact it is integrally connected with and dependent upon everything else around it, starting with the energy provided by our local sun. Every planet in our solar system is necessary to keep the Earth in its proper orbit — not too close to the sun and not too far away. Our atmosphere (the thinnest of membranes) protects the Earth and enables life to flourish. The slightest variation in any one of thousands of variables would upset the balance, with fatal consequences for all. The phenomenon of universal connectivity is a fact of life; it's what makes us possible. This is an important perspective for architects, designers, engineers and constructors to keep top of mind.

Think of it this way: We live in a gigantic bowl of Jell-O. Everything we do matters. Our words and actions generate ripples of consequence in all directions, just like gravity waves. Knowing this, we have the responsibility and opportunity to apply design thinking to find the right path forward. Success is within reach if we are willing to make the right connections.

Scott Simpson is a Senior Fellow in the Design Futures Council and a regular contributor to DesignIntelligence.

Equity by Design

PAUL VANDUYNE
IMEG Corp.

ADAM MCMILLEN
IMEG Corp.

MIKE LAWLESS
IMEG Corp.

Equity by Design

Overcoming bias and capitalizing on data to reach broader outcomes.

Paying Attention

The growing spotlight on social inequity in the U.S. has led many corporations to take a closer look at how their companies might be contributing to the problem, be it due to unintended bias, lack of staff diversity, or failure to connect the dots from a completed project to a negative effect on a disadvantaged segment of the population.

Though not part of the general public's consciousness, awareness of the built environment's effects on social inequality has been growing, gradually, within the AEC industry. This nascent awakening is just the start for most of us in the field. But there are signs that we are at the very least beginning to see how we — and the buildings and infrastructure we design — can be part of the solution instead of the problem.

Earlier this year, for example, the Wisconsin chapter of the American Council of Engineering Companies asked one of our firm's senior engineers to write a guest blog about a new fire station that is filling several gaps in an underserved part of Madison, WI as a result of the city's Racial Equity and Social Justice Initiative.

Our engineer wrote that the new station cut emergency wait times from 15 minutes to five for the racially diverse, socioeconomically disadvantaged neighborhood. The facility — easily accessible via new bus routes and clearly designed pedestrian pathways — additionally provides residents the use of a community room. While the author also discussed the highly efficient systems we designed for the LEED Platinum station, the fact that he first pointed out the project's positive impacts on the community speaks volumes.

Bit by bit, our engineering consulting firm (IMEG), the AEC industry in general, and building owners of all types are beginning to pay attention — not only to how a building's design and programming can serve its stakeholders and the environment, but also how it can help in the quest for equity in our communities to support the change we seek to create the world we envision.

A Revolution Brewing

For our firm and others like us, this is a revolution in the ongoing evolution of building design. For most engineers, the early years of their careers were spent thinking about simply making a building work — i.e., stand up, operate, and function. Around the turn of the 21st century (with the arrival of the USGBC's LEED certification program), high performance became the focus — e.g., energy efficiency and sustainability of products (and, eventually, net zero energy).

"

Bit by bit, our engineering consulting firm (IMEG), the AEC industry in general, and building owners of all types are beginning to pay attention — not only to how a building's design and programming can serve its stakeholders and the environment, but also how it can help in the quest for equity in our communities to support the change we seek to create the world we envision.

The City of Madison (WI) Fire Station 14 helps to provide equity to the neighborhood's underserved community as a result of the city's Racial Equity and Social Justice Initiative. *(Photo © Wayne Johnson/Main Street Studio, courtesy IMEG Corp.)*

Most recently, the relatively new WELL Building Standard and the COVID-19 pandemic have shifted the focus to occupant wellness — airflow and pressure relationships, filtration, clean air, daylight, connection to nature, and other broadly based factors.

These iterations of mission in the design and construction industry have succeeded in serving the general good of those who own, benefit from, or spend time within buildings. But now we are starting to consider the impact a building can have on occasional visitors and those who may never step foot inside of it. As illustrated by our engineer's blog, we are beginning to understand how our design practices can impact diversity, inclusion, equity, and other social issues.

These ideas have been visibly bubbling to the surface during the last 10 years or so, and for decades in other forms. Building standards such as WELL and the Living Building Challenge, for example, include credits for "Health Through Housing Equity" and the "Equity Petal," respectively. IMEG has designed several WELL-certified buildings (including our own WELL Gold office in Denver) and we have joined several sustainability initiatives that move us further along the social responsibility spectrum. These initiatives include the AIA 2030 Commitment, a data-driven effort to combat global climate change; SE2050, which seeks substantive embodied carbon reductions in the design and construction of structural systems; and the U.S. Department of Energy's Better Buildings Initiative, designed to improve the lives

of American citizens through energy innovation and efficiency. We also joined more than 130 leading AEC companies in signing a letter calling on the Biden administration to "build back greener" by adding sustainable building strategies to its climate agenda and environmental justice plans.

Like other companies that are designing to the newest, occupant-focused standards and joining climate-related industry initiatives, we realize we have a long way to go. We also understand that if we genuinely want to provide equity by design, we must first seek diversity, equity, and inclusion in our own business operations. Some industry organizations have begun to chart this course. For example, the AIA's "Guides for Equitable Practice" is designed to help firms ensure they have the talent, passion, and creativity of a diverse cohort of students, professionals, and leaders to be able to "meet the challenges of society's most pressing issues." The comprehensive guide offers detailed information and recommendations as well as key ideas for starting the process, including the need to "focus on self-awareness of your own cultural patterns and biases."

Finding Bias

IMEG has begun to look inside our own organization and see our unintended biases, a realization that has already influenced our decision-making at the leadership level that will lead to awareness training throughout the company.

Becoming aware of our biases is crucial as we strive to build, support, and encourage diversity and foster a culture of inclusion within our employee-owner staff. We understand the benefits of diverse perspectives among our team members, and we recognize how these perspectives can help drive us to greater success. We have been intentional, for example, in expanding the number of our female engineers and supporting them in their careers. Our 2025 Club empowers, educates, and advocates for IMEG's female professional and technical staff, focusing on the unique challenges of being a woman in a heavily male-dominated industry. Diversity initiatives also have been part of our key performance indicators to help drive the practice.

We also strive to make a difference outside of our own walls, expanding our outreach efforts not only into colleges but also into K-12 schools in diverse neighborhoods, where minority students often lack the opportunity to learn about opportunities in the construction industry. Our St. Louis office, for example, partnered with the National Society of Black Engineers to have a high school student join us for a summer internship in partnership with a healthcare client. This provided the student with exposure not only to engineering but to construction management, skilled trades, and architecture.

Beyond increasing diversity and social equality at our own firm and collaborating with our clients to do the same, we also need to seek equity by design in our projects.

Data will enable us to analyze relationships between indoor environments and occupants, such as the effects of daylight on student test scores. *(Photo © Paul Wedlake Photography, courtesy of IMEG Corp.)*

Emerging Duties

At the most basic level, it is our duty as engineers to provide buildings that are safe for all occupants and the surrounding community. This means everything from fire alarm and life safety systems to ensuring effluent from laboratories is discharged safely away from buildings and neighborhoods. We also minimize the negative effects that emergency power generating stations have on neighborhoods — something we hope to improve upon in the future by replacing traditional carbon-emitting, noise-producing generators with photovoltaic arrays and storing the renewable energy they produce in batteries to be ready for use during a power outage.

With hospitals and related facilities accounting for nearly 40% of our practice, IMEG also plays an important role in helping to safeguard the delivery of healthcare to our communities. During the COVID-19 pandemic, for example, we ensured that our clients' facilities provided proper ventilation and often quickly designed temporary infrastructure to ensure oxygen systems were able to meet patient surge demand. We also provided emergency departments with the appropriate pressurization to protect non-COVID patients and safely house potentially infected patients while they were evaluated and treated.

Data-Driven Equity by Design

Across all markets, data — and our analysis of it — will be increasingly important in the quest for equity by design. By partnering with firms that analyze health-related metrics and that share our vision for social equity, we will be able to create irrefutable links between building decisions and the effects of those decisions on communities.

For example, all buildings are connected to a local electricity grid, which is attached to any number of power-generation plants, many of which are fossil-fuel-based and create pollution that impacts the surrounding communities. Datasets are available to better understand these connections. On the Toll From Coal website you can click on any power plant on the U.S. map for a report on the number of schools, hospitals, community spaces, and residents within a 12-mile radius of that plant. The impact is translated into negative health outcomes per year (asthma attacks, work-loss days, etc.) and a breakdown is provided of the at-risk population (including the percentages of people of color and those living in poverty compared to the rest of the state). Within this context, energy efficiency and renewable energy design options can be seen more holistically than by just looking at simple ROI alone, showing that such decisions not only improve an owner's long-term bottom line but also reduce unintentional harm and make a positive impact on communities.

Other examples of data's potential for improving equity by design include:

- Decarbonization of the built environment. Climate change is increasingly showing its impact on human health, and various organizations are trying to lessen its effects. Health Care Without Harm, for example, works to reduce carbon emissions of healthcare facilities worldwide. Efficient operation of these facilities is critical and can be ensured through continuous commissioning throughout the life of the buildings. This leverages the power of data and automation to analyze key building performance parameters and alert operators when a system is not operating as intended. This single action not only reduces carbon and improves community health, it also can reduce waste and create jobs.

- Improving indoor environments. Data can also be used to measure and analyze conditions inside a building to help inform design decisions that lead to healthier and more productive indoor environments. It will be possible in the future to link daylight to student test scores, air quality to patient outcomes, and enhanced filtration in senior living facilities to lower hospitalization rates.

- Ensuring quality through digital twins. Virtual replicas of a planned building and its programming based on quantitative and qualitative metrics, digital twins will allow us to measure things we thought to be immeasurable — much the same way Major League Baseball teams are able to quantify defensive metrics by tracking the ball and the player with cameras.

We will be able to measure and link design decisions not only to building performance but also to the movements and collaboration of its occupants, helping to ensure a building enables — and even fosters — collaboration before design begins.

Steps to Equity

To reach a future that is more diverse, more equitable, interconnected, and has buildings that positively affect communities near and far, we need to take concrete actions and be unyielding in our commitment. This is a big challenge for us as a firm and certainly for the AEC industry. But by identifying critical steps along this path and starting on the journey, we can be successful in reaching an equitable destination. These steps include:

1. <u>Expanding our awareness of unintentional bias.</u> We can talk all we want about improving our own diversity, but we will never reach the desired outcome if we do not first overcome our unintentional biases. Making everyone aware of their biases and trying to minimize them will provide a solid foundation for building staff diversity and helping to ensure all our employees feel welcome, appreciated, and valued.

2. <u>Encouraging diversity outside of our firms.</u> Engage in partnerships with minority students, schools, and universities.

Work side by side with youth from disadvantaged and racially diverse backgrounds and start to understand their perspectives. Such early exposure could lead many of these students to a career in architecture or engineering, or into the trades, whose knowledge and skills build and operate our buildings and communities.

3. Making the health and social equity impacts of our buildings more tangible. Use data analytics to make the quantitative connections that encourage investments that improve communities in addition to the bottom line. Commit to communicating these metrics to clients and the public to encourage others to join in this mission.

4. Tracking impact. Measure success within your firm and in the greater community in which your projects exist. Track the quantitative metrics, but also listen to the qualitative responses to your actions. Engage your clients on this mission so that they can share in the goal to create a better, more equitable built environment.

If all of us in the design and construction industry take similar steps, we can evolve our mission as a group yet again, this time for the greater good, and move the needle on the spectrum of responsibility to help ensure more just and equitable communities for all.

Paul VanDuyne, PE, is President and CEO of IMEG Corp., a leading U.S.-based engineering design and consulting firm. Paul is an active industry leader and drives the firm's business objectives for growth, performance, industry collaboration, and staff development. He is a member of the Design Futures Council, NSPE, IES, and AEE, and serves on IMEG's Board of Directors. Additionally, Paul is a member of both Strategic Coach and Chief Executive Network and has served as chairman and board member of multiple not-for-profits, currently serving as vice chairperson for Palmer College of Chiropractic's Board of Trustees.

Mike Lawless, PE, FPE, LEED AP, is Director of Innovation for IMEG Corp. He is responsible for leading the strategic vision, development, implementation, and promotion of all innovation initiatives related to transformational changes in the construction industry.

Adam McMillen, PE, LEED AP BD+C, is Director of Sustainability for IMEG Corp. He leads the firm's high-performance building design and project sustainability efforts and builds industry relationships that positively impact the built environment.

ESSAY

A Declaration of Interdependence

DesignIntelligence Quarterly

MICHAEL LEFEVRE

FAIA Emeritus
Managing Editor,
DesignIntelligence

A Declaration of <u>Inter</u>dependence

In an appreciation of teamwork and diversity, DI Managing Editor Michael LeFevre calls for empathy and connectors, inclusion and revolution.

Of Self and Others

When I was in architecture school, we were taught to be self-focused. "Hone your design skills. Learn to draw. Learn about building systems, materials and form — you'll be more capable and visionary. You'll be great," they said. In those days, the literature and role models included Frank Lloyd Wright, Ludwig Mies van der Rohe, Le Corbusier and Louis Kahn. All men. All with horrible, traumatic family lives and not exactly attuned to client service. Their consistency extended to their lack of concern for whether their buildings worked or held up over time, and their disdain for the needs of their collaborators. They told their clients things like:

"If your roof is leaking, put a bucket under it."
— paraphrasing Le Corbusier's response to Madame Savoye.

"If it [the river] floods [Ms. Farnsworth], you take the canoe to the house. It isn't much. It's an adventure, but that belongs to life."
— Mies van der Rohe[1]

"I must say that I have come to a stronger confirmation of my aesthetic judgment and I was misled by my willingness to make adjustments."
— Louis Kahn[2]

They lived in simpler times. Times when a talented architect could approach having the knowledge *he* needed (pronoun intended, because few women were practicing). That capacity, coupled with some bravado, stellar salesmanship and an oversized, swashbuckling ego was enough in all these cases to create a strong firm cult-ure, and produce "great" works of architecture. Most of us, me included, still admire the works of these masters, despite their buildings' leaky, troubled lives.

These kinds of comments to clients are evidence of the exclusionary attitudes harbored and deployed by the modern architectural masters we were taught to emulate. And we wonder why the architectural profession has lost respect over the last 100 years.

In countless stories seemingly drawn from the ranks of reality-distortion fields and fictional tales like "Gone with the Wind," "The Fountainhead," "The Twilight Zone" and B-movie horror films, architecture was practiced as an exclusionary art. The great designers, the critics told us, knew what (and who) to leave out. "Less is more," they chanted to admirers agog.

> **"**
>
> *When it comes to a diversity of design perspectives, less is to be abhorred.*

[1] Alex Beam, *Broken Glass: Mies Van Der Rohe, Edith Farnsworth, and the Fight Over a Modern Masterpiece* (New York: Random House, 2020), 55.

[2] Wendy Lesser, *You Say To Brick: The Life of Louis Kahn* (New York: Farrar, Strauss and Giroux, 2017).

But it's time for reality to be acknowledged — for people and thinking of all types to be included in designing, building and living on this planet, or it will eventually stop its revolutions. The issues of inclusion and environment are finally being connected.

During the socially turbulent 1960s, Robert Venturi concurrently reminded us: "Less is a bore." His resulting buildings and their messy vitality were dismissed by many, shunned by others. But even while he wrote as a member of the architectural elite, his rejoinders to consider context got us thinking. Half a century later, maybe we've realized: when it comes to a diversity of design perspectives, less is to be abhorred.

The time has come. External events have finally convened to convince us, the hard way, that things must change. If architects don't learn to care about their clients, we'll soon find we don't have any. If we don't learn to be inclusive and to be connectors, our sphere of influence, stature and ability to produce works of architecture in our current contexts will continue to shrink. So will the value we provide and receive.

I am heartened by the progress I'm witnessing in this regard in schools and firms everywhere. New positions are being created. Inclusive attitudes are being nurtured in design schools. Amid such transformation, it seems almost easy in retrospect — surprising only in that it took so long to take hold. But change can be slow. We continue as we have until something forces us to change. It has.
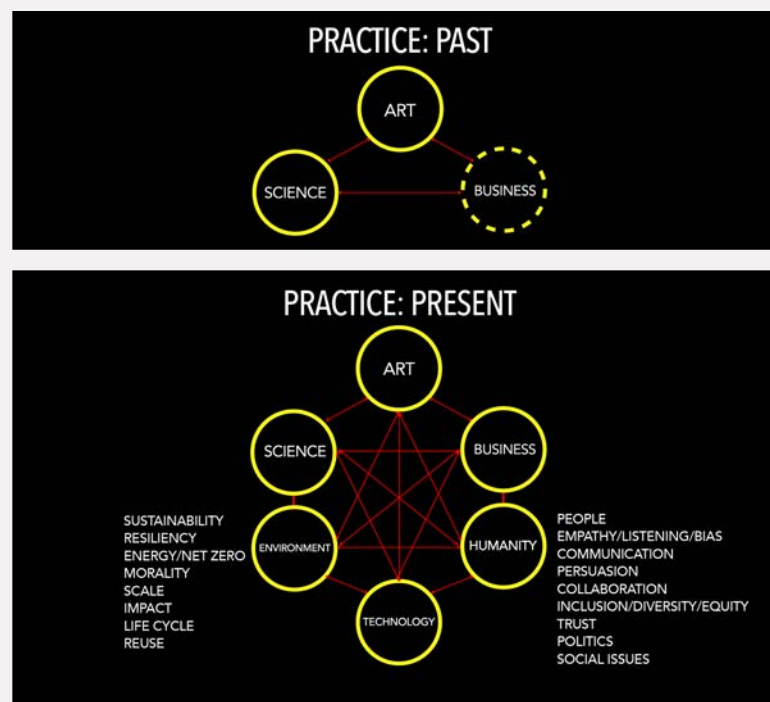
diagrams courtesy Michael LeFevre

Things are different now than when the modernist masters practiced.

No one can possibly know the whole breadth of things we are expected to embrace and include in today's designs. To the triumvirate of art, science — and their distant, third cousin, business — we were taught in the 1970s, we now add technology, humanity and environmental issues, all connected in an ever-growing network of forces and factors as shown in the diagrams below. Who among us can know them all?

"

We need connectors.

Just as importantly, do we have the interpersonal skills to aggregate and leverage our collective expertise?

Generalists, Specialists and Connectors

Throughout the recent decades of architectural education and dogma, architects were typically presented with a binary choice: become generalist practitioners or specialize in one or more building types such as healthcare, residential, offices, et al. Regardless of which path we chose, we were coached to be the conductors and choreographers. No one else, we were assured, has the broad education and skillset in the humanities, arts, sciences, design and business that allows the kind of perspective and integral, synthesizing design-thinking required. Most of us believed that and some still do.

But in hindsight, there's a flaw in that approach: because of the role models, cultural legacies and failings cited above, and limited time and interest in acquiring business, leadership and collaboration skills, not enough of us architects are skilled at leading. Few of us really know how to collaborate and even fewer have mastered the skills, strategies and risks that attend to business.

With 50 years of perspective in architecture and, across the line, working as a design collaboration liaison and design manager within a national CM firm, I've learned we need a new role.

We need connectors.

With so many skills and specialties now expected in our work, we can no longer rely upon lone omniscient masters — because there aren't any anymore.

Where and what kind of connectors do we need? Within any organization, we can look at three classic areas of mutual interdependence: people, processes and technology.

People

Now that we have realized the failures of hundreds of years of exclusion of women and minority professionals in design, we are on an accelerated learning curve to adopt justice, equity, diversity and inclusion in our practices. Firms across the world are quickly mobilizing to appoint directors of such human resource domains to remedy the single-minded homogeneity of our past practices, with dramatic results. Our newfound diversity of experiences and perspectives is helping cope with the connected concurrent crises of social, economic, political, environmental, pandemic and informational issues we face.

Similar connector roles are needed to translate languages, encourage listening and add value among the diversities of contractors, trade contractors, architects, engineers, owners, technologists, sustainability experts and countless more — all of whom speak different versions of supposedly the same language (or different languages, in the case of international and global work).

---

[3]Marty Neumeier, *Metaskills: Five Talents for the Robotic Age* (San Francisco: New Riders, 2013).

[4]Michael Alan LeFevre, *Managing Design: Conversations, Project Controls and Best Practices for Commercial Design and Construction Projects* (Hoboken, NJ: Wiley, 2019).

For over 20 years I filled such a role as a connector. Because I could think and speak in two languages, I could translate and interpret to add value, build understanding and keep people engaged — and projects moving. I performed these skills for those at the table back then, but not for the groups coming to the table now. The need remains. Current career gurus speak of T- shaped people, those with a broad horizontal base of experience in their field and at least one strong vertical area of expertise. But those T-shaped people can still be isolated until an X-shaped person comes along to connect them.[3] Where will the X-shaped people come from? Who will they be?

It matters not. The connectors we need can be architects if we realize our potential and if our schools redirect education to prepare them. They can be contractors if the new generation of collaborative builders can acquire the skills. Surprisingly, while working inside a CM firm, I witnessed many contractor-types become great connectors. They did it because they were better suited to adapt to change. They did it for survival. They did it because the architects and owners didn't (or couldn't), instead simply complaining about the disconnects and carrying on. The truth is we never cared about who was in charge. We just cared that we were working as a team. On many occasions, the leader or connector's role transitioned from person to person and organization to organization as needed. They exhibited those prized skills called teamwork, diversity, agility — and trust.

Processes

In interviewing more than 40 AEC industry experts for my book "Managing Design"[4] and another 100 luminaries over the past two years at DesignIntelligence, I have continued my quest to understand the new forms the design process has taken. I have yet to find them, but I see them taking shape. In large part, gone are the days of a lone designer self-creating a concept on tracing paper then throwing it over the cubicle to the CADD/BIM technician to regularize, validate and make real. Now, groups are taking part in shaping programs, seeking concepts and contributing expertise in early design phases. More often, these groups include clients, communities and cadres of experts and diverse opinions. Much as cell phones and the internet have altered human behavior, surely the means of creation is influencing its evolutionary process.

What this means is that designers of the future may need process experts to reshape, integrate and connect the parts. Where will they find them? Maybe such new age craftspeople will emerge from the ranks of architecture and design schools. Maybe they will cross over from related disciplines such as computer or process design or industrial systems engineering. Maybe these new kinds of "design" principals will include psychologists and diversity and inclusion experts. Maybe they already do.

Technology

In their book "The Future of the Professions," Richard Susskind and David Susskind speak to the increasing routinization of tasks previously done by professionals.[5] Tasks such as designing a stair used to be a rite of passage for entry-level architects. Now, young designers input floor-to-floor heights and Autodesk's Revit software does it

[5]Richard Susskind and David Susskind, *The Future of the Professions: How Technology Will Transform the Work of Human Experts* (Oxford: Oxford University Press, 2016)

for them, saving real human expertise for larger-order tasks. These kinds of parametric and artificial intelligence learning tools are changing how we work. Author/thinker Ray Kurzweil predicted that "singularity [the convergence of man and machine] is near," and that it would be here by 2030. Nine years left. With Siri, Alexa, Apple watches and Google glasses, that doesn't seem much of a stretch anymore.

Now that we have so many machines, we need connectors to link them to us and to link us all together — in clouds, networks, BIM protocols, databases, big data, research, the Internet of Things and all kinds of intelligent systems and alphabet soup like AR, VR, BIM, VDC, AI, IA, SAAS and more. Soon, even the E-I-E-I-O of Old McDonald's farm will be an acronym for some smart system. How about Environmentally Intelligent Eco-systemic Information Operations? That would be a fine name for the farm of the future. But no matter how many machines and how much automation we have, we'll always need people to make judgments, set values and decide what to do. To connect and make sense of it all.

Choice or Chance?

As we plot our paths into the future, we are constantly faced with options. Do we make choices or let fate dictate for us? What are the possible trajectories from our current state to our desired state? Are we tracking our path or merely keeping our heads down to produce, blissfully ignorant of the change that surrounds us? Are we aware of our potential and the contexts in which we work? Have we

established a broadly-based cohort of peers and partners, friends and family to round out our shapes and counsel us on our paths? In counseling others to adopt these techniques in our work at DesignIntelligence Strategic Advisory, we are forever learning the power of working in teams and the magnificent potential of our interdependence. We must re-learn how to respect it.

A Declaration of Interdependence

As we turn the corner on a revolution within the design and construction industry, it's time to revisit the basics. It's time to look at what the future is telling us. It's time to initiate and design our response to the future and declare what's important. With apologies to our Founding Fathers, Gil Scott Heron, Rosa Parks and countless others who suffered and fought for this cause, I offer this design-and-construction-centric, short-form adaptation of a familiar text, with a few revisions and additions noted in color:

> *WHEN in the Course of human Events, it becomes necessary for one People to strengthen the Bands which have connected them with another, and to assume among the Powers of the Earth, the separate and equal Station to which the Laws of Nature and of Nature's God entitle them, a decent Respect to the Opinions of Mankind requires that they should declare the causes which impel them to connect.*
> *We hold these Truths to be self-evident, that all People are created equal, that they are endowed by their Creator with certain unalienable*

Rights, that among these are Life, Liberty, the Pursuit of Happiness—and planning, design, construction and operation of facilities in sustainable ways. That to secure these Rights, project teams are instituted among professionals, deriving their just Powers from the Consent of the Governed, that whenever any Form of Government becomes destructive of these Ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its Foundation on such Principles, and organizing its Powers in such Form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that bad practices long established should be changed; and accordingly, to right themselves by abolishing the Forms to which they are accustomed. It is their Right, it is their Duty, to throw off such obsolete ways and to provide new models for future practice and value. Such has been the patient Sufferance of these professions; and such is now the Necessity which constrains them to alter their former Systems. The History of the present practices is a History of repeated Injuries and Usurpations, all having in direct Object the Establishment of an absolute Tyranny over these practitioners. To prove this, let Facts be submitted to a candid World.

We need one another. We are mutually interdependent. Let us cast off the tyranny of "either/or" and embrace the freedom of "both/and" and "the power of others."

Let us work together to plan, design, build and operate facilities with empathy, civility and respect — for the betterment of all.

There is potential danger in conflating architecture — a historically privileged profession — with social and racial injustice, but the time for conflation has come. It's time for convergence and convening, community and communication, for listening and understanding.

The revolution WILL be televised. And tweeted. And written about. The revolution will be realized, socialized, ecologized, economized and politicized — because we're in it together.

Author's Note:

Heavy storms are passing over Atlanta as I write this essay. It's 3 a.m. Thunder, rain, floods and tornados surround and pound the South. But these winds will subside, the sun will shine and the birds will sing, because we will be interdependent — and connected.

Michael LeFevre, FAIA Emeritus, is principal, DesignIntelligence Strategic Advisory; managing editor, DI Media Group; and the author of the Amazon best-selling new release: Managing Design: Conversations, Project Controls and Best Practices for Commercial Design and Construction Projects *(Wiley 2019).*

The Power of Many

RICK ARCHER

Founding Principal and CEO,
Overland Partners Architecture +
Urban Design

The Power of Many

Overland Partners' Rick Archer shares his firm's journey toward diversity, equity and inclusion

Foundational Assumptions

When we consider the topic of diversity, equity and inclusion (DEI) in the practice of architecture, our thoughts quickly turn to race and gender issues. Both are critically important and of concern given how poorly we have done in addressing them over the long history of our profession. But I wonder if an underlying issue lurks beneath these visible failures. One of the sacred texts states that "the kindest act of an evil man is wicked to God." Applying this to the topic of DEI makes me wonder if some of the foundational assumptions of our profession are so misdirected that we are challenged to address these issues in a substantive way.

As an example, take the notion of the "starchitect." Though we seem to be moving toward collaborative practices that are trying to make meaningful advances in addressing the problems that face our world today, we continue to reward individuals who produce eye-catching work that does nothing to address matters such as climate change, afford-

able housing, health or wellness. Are these "PR-chitecture" projects (as coined by Kate Wagner) continuing to lead our profession astray and are they leaving us and our constituents longing for more? Quite possibly.

What does starchitecture produced by singular egos have to do with diversity? Everything. If the work produced by a firm is purely the result of one person's imagination, why does that firm need a diverse workplace? If a firm simply produces work that is self-focused, does it matter if the staff reflects the diverse world around us? Isn't that environment simply perpetuating the culture of indentured servanthood that has marred the profession of architecture for generations?

When I was a young architect practicing in Washington, D.C., in the 1980s, I was approached by one of the recognized luminaries in our field. He had heard about my work and invited me to join his practice. I was honored, until I learned that I would be working without pay for the privilege of executing his ideas. Perhaps that opportunity would have been attractive to an independently wealthy individual. It wasn't to me. I was married and the father of two young children — with no trust fund. Working gratis wouldn't make sense for me, and I suspect it wouldn't for most other people, much less graduates who didn't come from the privilege I enjoyed. You can imagine the staff composition and philosophy of that prestigious architect: not particularly diverse, not welcoming of diverse perspectives on design, not focused on larger societal issues.

But this concern is not limited to big-name firms. The vast majority of placemaking is done by well-intentioned architects who are working independently of the communities they seek to serve. Practices like the one I helped found, Overland Partners, struggle to include the many voices that are required to do truly inclusive work, even if varying perspectives are represented in the office. It is not that we do not want to, it is simply that we have been patterned to believe that there is *one* way to see the world — our way. That way may make it easier to arrive at a solution, but is it consistently resulting in the best or the right solution? Probably not.

Here's the point: If we are going to address the world's complicated, diverse problems, creating work environments that include people of different backgrounds, treating everyone equitably *and* welcoming diverse perspectives are not just important — they are essential practices. In the words of Glenn Martin, "Those closest to the problem are closest to the solution." If we really want to be part of the solution, we must invite those closest to the problem into our design process. Furthermore, homogeneity is the killer of innovation. In a profession that is historically homogeneous, we must be intentional about bringing diverse thinking, experiences, perspectives, world views and abilities to our practices. Cultural and experiential diversity must be highly valued if we want to remain relevant as a profession.

> *If we are going to address the world's complicated, diverse problems, creating work environments that include people of different backgrounds, treating everyone equitably and welcoming diverse perspectives are not just important — they are essential practices.*

Collective Intentions

At Overland, we intentionally built our studio around the collective skills, talents and contributions of a team, not a singular architect/partner. That is why we are named "Overland Partners" rather than Archer, Blonkvist, Schmidt and Smith (admittedly a mouthful). The result is a creative community of problem-solvers known for innovation, design-thinking and outcomes that result in measurable transformations for the people, projects and places we serve. We started as four white, well-educated men — best friends from college. We came from pedigreed practices but were not yet a proven firm name that would attract top graduates. This meant laying down our egos and finding talented people willing to come to work for us. In the 1980s, that led us to hire people others might not have hired; our first employees were all women or members of a minority group. Though being diverse wasn't our expressed intention, we built a team of people who did not look like we did. Even more impactfully, they did not look at the world like we did. That may have been the best thing that ever happened to Overland. places we serve. We started as four white, well-educated men — best friends from college. We came from pedigreed practices but were not yet a proven firm name that would attract top graduates. This meant laying down our egos and finding talented people willing to come to work for us. In the 1980s, that led us to hire people others might not have hired; our first employees were all women or members of a minority group. Though being diverse wasn't our expressed intention, we built a team of people who did not look like we did. Even more impactfully, they did not

look at the world like we did. That may have been the best thing that ever happened to Overland.

We still have a long way to go. We are learning that our current recruiting strategies must continue to embrace the diversity that has become one of our hallmarks. As an example, we have cultivated connections to primarily white institutions when nearly 85% of Black architects in the United States are educated at historically Black colleges and universities (HBCUs). We are just beginning to intentionally seek talent outside of our usual pathways and are hopeful that this will make us even more representative. In addition, recent projects in the inner city and across the globe have made us aware that the architectural reference points we use are hyper-European. We need to challenge each other to bring more diverse perspectives into our design research. This is one way our methodology can begin to shift to embrace more perspectives.

Empowerment

Before the COVID-19 pandemic took its toll on our backlog of work, our firm employed 82 people from as many as 14 different nations. It was beautiful to walk around the office and hear Chinese, Italian, Spanish, Polish, Portuguese, French, Swahili and English. This diversity wasn't just limited to ethnicity, race and country of origin. Unlike many architecture practices that lean politically left, our team included community activists *and* card-carrying NRA members. We quickly learned that while diverse teams outperform homogenous ones, that is only the case when

leadership truly understands how to lead a diverse work-force, when they have learned empathy and are open to different ideas. But it also means raising up the next genera-tion, so that underrepresented/minority professionals are fully included. And until leadership looks like those in the studio, how will emerging leaders be able to visualize themselves in the future? We know this takes time, but the first steps can be taken today.

Providing leadership in a diverse workplace, as in any workplace, requires clarity of mission, vision and core values. Overland had these in place from the outset; they became the framework for diversity, inclusion and interde-pendence that is foundational to our culture. We have been and continue to be intentional about trying to create an environment where all team members can thrive and are supported in their efforts to grow as architects and urban designers. We encourage participation and leadership in organizations that elevate their voices and expand the influence and opportunities of the profession to diverse and underrepresented communities. We have a robust intern program that employs students from many schools, includ-ing the University of Texas at San Antonio, a predominantly Latino population, many of them first-generation college students. We have embraced the International Living Futures Institute with more ILFI-certified architects than almost any practice in the United States and with a commit-ment to Just management practices. And two of our em-ployees, Greg Street and Dyami Luster, have helped to launch NOMA Central Texas. Unlike our early days, we are now able to intentionally seek and attract some of the best

and brightest minds from around the world. Our spectrum of gender, ethnicity, race, nationality, age and political views consistently ranks among national leading firms. We need and value the skills, training and knowledge of our younger team members and pursue a culture where their ideas and input are encouraged and embraced. We are becoming ever stronger in learning to embrace diverse viewpoints in our work. We are discovering the joy of letting go of control and welcoming everyone's ideas. We are breaking down silos and fostering teams that cross-pollinate. In so doing, we receive the gift of being a diverse workplace with diverse perspectives: improved design outcomes.

We extend the same philosophy of inclusion and camaraderie to how we work with our clients and key stakeholders. No two Overland projects are the same because they reflect each client's unique mission, vision and values. We see projects as adventures we walk together *with* our clients. To guide us on those journeys, we created The Human Handprint™, our holistic design process that validates our brand promise of "unlocking the embedded potential" and optimizes positive, measurable outcomes and impact for our clients and projects. Part of the thinking behind The Human Handprint is that no two people have the same print, that the world is diverse by design. As a result, our process is specifically tailored to each client and their mission by the team designing their project.

Lessons Learned: Hope House

A recent example is Hope House. A center for social service and a museum of African American history, Hope House addresses the marginalization *and* history of the Black community in our hometown, San Antonio. George Frederick runs Hope House as a ministry to predominantly Black men and women who live in poverty in San Antonio, many of them experiencing homelessness. His colleague, Everett Fly, is an architect and landscape architect who has researched San Antonio's Black history and is discovering and exposing a rich heritage that has been untold and nearly lost.

How were we to reflect the Black experience in the design of Hope House when our leadership is entirely white and mostly male? How could we express Black culture in built form? Sadly, in San Antonio, there are only six practicing registered architects who are Black. Thankfully, two of them, Greg and Dyami, are colleagues at Overland. We invited these gifted, recently licensed architects to design the project. Senior leadership's role shifted to being counselors and advisors rather than directors of the outcome. To augment our team, we engaged Ure Ogguro, a Nigerian-born architecture student and former employee, to produce the renderings that depicted our work. Her drawings sent the right visual clues, making the work product reflect the community for whom it was created. They reminded us that design process is integral to the outcomes it delivers.

The Hope House project is located in a historic district that has been predominantly Black since the 1950s. The neighborhood is deemed historically significant, however, be-

cause of its late 19th-century and early-20th-century homes, mostly built by European Americans. These dual stories have raised challenging questions: "Who's history are we preserving?" and "Is there room for a culturally appropriate formal expression that is not allowed under the preservation guidelines?" Clearly, this conversation cannot and should not be led by people of my background. Rather, Dyami and Greg bring appropriate value and weight to the public discourse while being empowered as architects and individuals. While they don't have 40 years of experience as I do, what they bring is far more important: perspective, empathy, ownership — and lived experience. The project, the community and our firm are all better for it.

International Outlook

Another example of our approach to diversity is our work in China. We employ extraordinary young Chinese architects like Yanjing Chen, An Liu and Sijie Dai, as well as Anglo-American Ben Parker, who is passionate about China and fluent in Mandarin Chinese. This cadre of international talent has made our projects in China more culturally relevant. This group has also helped manage contractual risk and other relational dynamics. If we did not employ and empower architects from China, I would question if we should attempt to do work there.

Many of our Asian clients want us to bring our "American ways." Because they build what we imagine faster than we can draw it, it would be easy to get caught up in the heady spirit and pace of these large, complex projects. More so, in

> "We came to know individuals and families in the community who were experiencing homelessness. We heard their stories; we witnessed their lives; we learned to love them. We wanted to help them find solutions that would empower them to succeed independently.

countries where citizens are not accustomed to being asked their opinions, where decisions are made from the top down, community engagement is virtually nonexistent. This makes it essential to include the ideas of young designers and architects who understand the culture if we are to produce work that is appropriate and relevant.

Immersion and Empathy

As we address the cultural divides around race and nationality, we must also address the divide in income disparity. Overland recently completed two of the largest, most effective centers for people experiencing homelessness: The Bridge in Dallas and Haven for Hope in San Antonio. Designing for these populations requires skills that are generally not cultivated in our academy or profession. Most architects have not experienced this kind of displacement,

so by culture, context and upbringing, it is impossible for us to empathize with the lack of education and misfortune that results in being unemployed or under-housed.

My personal entry into the world of displaced people began when my partners and I began volunteering overnight at the local homeless shelter. We came to know individuals and families in the community who were experiencing homelessness. We heard their stories; we witnessed their lives; we learned to love them. We wanted to help them find solutions that would empower them to succeed independently. We volunteered for years before we designed our first center for the homeless. When we interviewed for the Bridge Homeless Center in Dallas, we spent time onsite and talked at length with those encamped nearby. We made friends, like Willy Hickerson, who became part of the community that informed the design during public workshops. Building on this momentum, we invited people living on the streets

to help us imagine a better way.

When the Bridge received a national AIA design award, I distinctly remember a colleague from another firm who had designed a similar center for the marginalized saying, "Maybe one day an architect will ask the homeless what they want, but we certainly didn't." Then it was our turn. After I spoke about the center before the AIA National Convention, one of AIA's Gold Medalists approached me with what seemed like disdain, "You sound more like a social worker than an architect." "Thank you," I replied.

An Inclusive Approach

Simply being diverse is not that difficult. We can recruit, mentor and promote deserving architects — male, female, Black, white and more. What is difficult is embracing diverse perspectives from our employees, clients and other stakeholders. That takes real work — a willingness to be uncomfortable. To let go of control. To count others as more important than ourselves.

Over a decade ago I had the opportunity to travel to Benin, in West Africa, to design a center for sports training in a place that had been the epicenter of the slave trade. In our small entourage was a young Black American couple,

Reggie and Stacey Williams. We became traveling companions and friends. As we encountered village after village still reeling from slavery's effects, I began to see and experience through Reggie and Stacey's eyes. Here, in a place where I was the distinct minority, I expected anger, resentment and bitterness. After all, 300 years before arriving in these remote places, people who looked like me had stolen these people's ancestors. But I was received with love and compassion by the Africans and by Reggie and Stacey. Under their tender guidance, I awakened to the fact that I had failed to appreciate the enormous gift and privilege I enjoyed on the backs of people from Africa, people who were forced to serve my forebears and by extension their descendants — people like me.

Is it possible our profession has done and is perhaps still doing the same? Isn't it time we embraced a new inclusive approach, not just by having offices that reflect the diversity of the world, but by including all our colleagues as co-creators? Diversity, equity and inclusion demand that we move beyond starchitect or style-based practices. These limited perspectives, while often generating beautiful architecture, are not focused on our social challenges. Only by welcoming more diverse perspectives will we begin to create a world where all people can flourish by – and through - design.

Rick Archer, FAIA, LEED AP, is a founding principal and CEO at Overland Partners Architecture + Urban Design. The global practice designs sustainable projects that empower human transformation. Rick's focus is on education, conservation, social equity and the arts

Inclusive Interdependence in the Health Care Context

KIM MONTAGUE

Executive Director of Research &
Partnerships, Health,
Kimball International

Inclusive Interdependence in the Health Care Context

What exactly does inclusive interdependence mean? Google (via Oxford Languages) defines these terms as:

"Inclusive, or inclusivity: not excluding any of the parties or groups involved in something."

"Interdependence: the dependence of two or more people or things on each other."

Seems the same, right? Not quite …

Inclusiveness is proactive; it implies intention without enforcing action. Inclusion is an act of kindness and positive human interaction. As a child, being included in your group, or clique, meant everything — being excluded usually resulted in tears and running home to mom. When two or more people or things are dependent on each other, each requires the presence of the other and implies trust that both will perform their duties. A perfect balance, such as in the ancient philosophy of yin and yang, demonstrates mutual reliance. Thus, interdependence has limits and requirements. In health care, the failure to address inclusiveness and interdependence can have more serious impacts than hurt feelings — it can be a matter of life and death.

Conversely, basic human interactions such as communication, compassion and empathy can lead to health and well-being.

Inclusion: The New Advantage

In corporate initiatives of recent years, inclusiveness often starts as part of a mission statement to catalyze and create a more diverse workforce. Recently, enlightened organizations have moved beyond the boardroom to realize that to attract and retain the best and brightest talent, an inclusive culture is not simply necessary and desired, it is an essential element of good business practice.

In her book, Inclusion: The New Competitive Business Advantage, Shirley Engelmeier discusses the shift from diversity initiatives to creating an inclusive culture. With Gen Y's collaborative and team-focused approach in business and their presence in the workforce of nearly 40% by 2025, "the old command and control management approach will not result in peak efficiency." A study by sociologist Martin Ruef looked at Stanford Business School graduates and found that those who had the most diverse friendships also scored higher on the innovation scale, suggesting that diversity and inclusion lead to better business outcomes.

As a health architect, I believe inclusiveness is also good design, and so does the American Institute of Architects. In 2015, the AIA launched their Equity in Architecture Commission to address the inequities in the profession. More than one year of study, discussion and meetings with a vast

> *We have an obligation to prioritize relational care as reflected in our code of ethics by respecting the uniqueness and dignity of every person and treating everyone fairly.*
>
> *— Cynda Hylton Rushton PhD, RN, FAAN, Anne and George L. Bunting Professor of clinical Ethics, Berman Institute of Bioethics /School of Nursing, John Hopkins University*
>
> *Source: FAMILY PRESENCE POLICY DECISION-MAKING TOOLKIT FOR NURSE LEADERS (planetree.org)*

array of professionals resulted in recommendations to expand equity, diversity and inclusion in all areas of practice. From these early discussions, the AIA has continued to keep inclusion front and center in design. In their document, Framework for Design Excellence, the subject of designing equitable communities is one of 10 elements that "seek to inform progress toward a zero-carbon, equitable, resilient and healthy built environment."

One of the most compelling aspects of this framework is designing for health and well-being.

Including what some may say are the obvious aspects such as daylight, thermal comfort and indoor air quality, designing for happiness is by far the most inclusive.

The point is: equitable environments make people feel they are respected and that their opinions matter, ultimately resulting in authentic experiences, more productive and happier spaces — and better patient outcomes.

Health Care Use Case Types and Their Solutions

This essay's hypothesis offers a question: Are we designing our health care facilities for happiness? Are they inclusive by nature of the care provided? To illustrate, let's examine four use cases experienced in health environments and how their physical solutions might enable or enhance inclusion.

- Care provided TO us:

    - Think of surgery … the act from surgeon to doctor is one-directional. The surgeon performs the act of surgery TO the patient. The patient in this case is (very) passive; in fact, anesthetized and unable to participate.

- To succeed, this act demands inclusive and interdependent behaviors from the entire surgical team.

The nurse anesthetist, anesthesiologist, residents, environmental services, sterile supply and many others all play a role in the act of surgery for that patient.

- To serve comprehensively for successful outcomes, health care professionals must be inclusive, engage in collaborative conversations and include all the information necessary.

- Surgical activities are interdependent; surgeons cannot perform surgery without clean instruments, a sterile field, appropriate medications and anesthesia, and training. Surgery is like a well-orchestrated play, which is why the operating room is sometimes called "operating theater."

- Care provided FOR us:

- Vaccinations, examinations and patient room visits fall into this realm. We are present as patients, but the care act is one-directional. The caregiver, nurse or doctor may conduct a clinical exam, check a surgical incision or perform any number of activities. The caregiver may ask you, the patient, questions, but the physical nature of the interaction is one-directional.

- In care FOR us, interdependencies are few, but still present, in that we may have some follow-up from this interaction. Examples include bandage changes, medications, etc. We may also have questions for our providers and need additional follow-up.

- Care provided WITH us:

- For this use case, think of physical rehabilitation. Key interdependencies occur here. The therapist assists you through the movement. You attempt the movement, with assistance. Gradually, you work your way toward doing the movement on your own.

- Interdependencies are frequent for these types of activities, as are their attending physical and emotional interactions.

- Activities (or care) we do ALONE:

-This use case might involve educational materials provided to you or your loved ones, perhaps medical information, prescriptions, discharge instructions and the like. Our care team asks us to do these follow-up items on our own after our exchange.

-Let's use physical therapy as an example again — we are given exercises and stretches to do on our own at home, and then come back to the next WITH session prepared with questions and to do a review of our progress.

-What about family support? Having someone with you to hear the discharge instructions is critical to the healing process, a family member or care partner that knows the patient and can identify changes in behavior and mood, helps to clarify needs. Many studies have demonstrated that having a family member present is not only inclusive, but good medicine.

The Environment's Role

How do health care environments relate to these kinds of use cases, activities and interdependencies? To move from functions to physical space, an analysis of a few common space types may help in understanding.

Patient Care Spaces

Can you imagine if an exam room did not have a side chair for someone to aid you during your visit? Or if your elderly parent had to meet with their caregiver alone? Think about exam room or patient room … the arrangement of a physician stool, family side chair(s) and exam table or patient bed, while seemingly an easy and mundane design task, should be taken seriously, and should, in fact, be very intentional. According to the Centers for Disease Control and Prevention, over 50% of Americans have a chronic disease, and with that, 80% of our health care spending is on treatment of chronic disease, most often in a primary care setting or clinic. This makes the design of these spaces, and much of the environment affected by the collaborative, inclusive and interdependent "FOR" and "WITH" environments crucial to health and well-being.

Having a place for conversations to engage with the patient and family member, such as in a consultation space, allows for the exchange of critical information toward health and wellness. Having gone through the cancer experience with my mother, in a variety of these spaces (both poorly and appropriately designed), the environment makes a difference in how information is heard, received and comprehended.

Collaborative Team Centers

The debate over centralized versus decentralized team care spaces (nurse stations) has been ongoing for several decades. In some organizations, having the nurse close to the patient's bedside is the primary goal. In those cases, a decentralized model is preferred and is usually built. But recent research suggests other options as well. A study published in the Journal of Nursing Administration in June 2020 concluded: "Although the design of the decentralized unit positions staff members closer to patients, many feel isolated, while the centralized units seemed to better promote staff proximity and access to supplies." This is one option that supports interdependence and inclusion in nursing practices.

Finally, to share a personal anecdote, several years ago I was involved in a project that adopted a hybrid model. It included bedside charting, decentralized workstations located between two rooms, a centralized team care space, and a private conference space located adjacent to the nurse station. During our post-occupancy evaluation, guess which space we observed being used most frequently? It was the team care space (familiarly known as the nurse station). By observation, the staff seemed to prefer this space, allowing for collaboration and discussion regarding patient care as well as the opportunity for social interaction — something most staff at this facility placed as a high priority for their professional satisfaction. The bedside charting stations were used to discuss care plans with patients and family while in the room; however, the touch-down stations located between each room were infrequently used, except for storage.

Touch Down Stations, photo courtesy author

Healing Gardens

When Roger Ulrich first published his study regarding "positive distractions" for patients post-surgery, the industry had no idea this would lead to more inclusive design parameters in hospitals. In his study, patients who had a view of a garden were administered less pain medication and were discharged sooner than the patients with a view of the brick wall. Later, in 1995, Marcus and Barnes published a study regarding healing gardens in hospital settings. Their conclusion? Outdoor spaces, specifically designed for ALL patients, staff and supporters in a health care setting, are not only good for the psyche, but are also supportive of healing, well-being and inclusivity. The excerpted tip below is an excellent example of one such approach.

Although this overview only examined three solution types, the potential of the environment to support, nurture and enable inclusion seems clear. Intuitively, architects and designers leverage their knowledge toward inclusivity, and, by definition, buildings function interdependently because of the myriad of systems installed. The missing link, however, and the one factor that supports both aspects is PEOPLE.

"

Place smooth, tree-covered paths around that are inviting for taking walks and can accommodate wheelchairs and those patients with assistants. Provide light furniture that can be easily moved into either the sun or the shade so as to encourage conversation and interaction between people, with plants that attract birds, squirrels and other small wild animals that can be watched..

— Marcus and Barnes

Teamwork Required

One organization that believes that inclusive interdependence is critical to patient outcomes: Planetree International. Founded by a patient in 1978 on the core principles to personalize, humanize and demystify patient experiences, Planetree has been working for decades to educate and transform health care systems around the world on the importance of inclusivity and positive human interactions.

Having had the honor and pleasure of working with Planetree for five years, I listened repeatedly to patients, families and caregivers share their stories about the care experience and how their care experience was enhanced by their

caregivers' constancy in communication. Sadly, some also shared stories of the lack of inclusive behaviors, often leading to negative outcomes. Communication and inclusiveness need to march arm-in-arm, and as suggested above, the physical environment can support these actions.

Each of us has personal anecdotal evidence that environments are rarely neutral. We are impacted by them in either positive or negative ways. The difference is the experience we have with the PEOPLE in the place. We can design beautiful environments, but if patients are not properly welcomed, included alongside their care partners and supported by trusting teams, they are confronted with negative care experiences.

In short, person-centered design is simply being inclusive with the community, creating interdependence in the user experience and innovating to yield unique, personalized, exceptional health care experiences.

As architects, we have the opportunity to design spaces that give freedom to nurses, doctors, therapists and the entire staff to perform at the fullest extent of their personal and professional capabilities and contribute to creating these positive or negative experiences. At its core, this is the basis of inclusive design and is how the design industry can lead in designing inclusive and interdependent environments.

Doing the Right Thing

The growing complexity of our health care systems demands that we work in teams.

In our collective quest to provide inclusive healing facility designs, informed designers are increasingly challenged to collect the right data, to know it all themselves while being innovative and creative. In a 2012 McKinsey survey of what innovation leaders say they do right, the results showed that innovative teams not only aspire to discover methods of innovation, but must accelerate and mobilize these efforts to achieve optimal solutions in their businesses. These outcomes are not easy and take time, but the best organizations and the practitioners commit and steadfastly incorporate these attributes into their corporate cultures.

In a prescient foreshadowing of our broader responsibilities and team-based practices, Florence Nightingale famously said:

"Let whoever is in charge keep this simple question in her head (not, how can I always do this right thing myself, but) how can I provide for this right thing to be always done."

Her quote presents the challenge well. In today's context, I would amend it slightly: how can WE provide for this right thing (and all the right things) to be done in an inclusive and interdependent manner? If we design in context — with all the interdependent participants and factors in mind — we'll be off to a good start.

Kim Montague is the executive director of health research and partnerships for Kimball International. A senior health care architect, Kim has spent her career advocating for, and designing with, patients, families and staff to create healing environments in communities around the world. A passion for research-focused and evidence-based design, she serves on the AIA Academy of Architecture for Health Board, AIA Michigan Board of Directors as a Detroit representative, and is the president of the incubating chapter of Women in Healthcare - Michigan.

Learning to Listen

JEFF KUHNHENN

AIA, LEED AP

Learning to Listen

Multiple Perspectives Enhance the Design Process

It's been a year and a half like no other – a time when the closure of many offices and workplaces due to COVID-19 signaled a new era of working from home. Many companies and organizations are returning to the office and reuniting their employees as vaccines continue to be released and restrictions begin to ease. As we begin to emerge from isolation, undoubtedly there will be personal lessons to share. This is also an opportune time to explore the collective lessons we've learned about social justice since the events of the summer of 2020 and ask a few questions, including: How can we apply these lessons to reunite our cities? Designers can play a pivotal role in how that transpires, and we have an obligation to be a part of healing our communities. But before we can commence the healing with any sense of equity, we need to take a good look in the mirror and, dare I say, check our egos at the door.

Don't get me wrong — it's important for architects to have self-assurance. Our profession celebrates such attitudes. But there's a big difference between a healthy dose of self-confidence and what I refer to as the "big man syndrome" — namely, a genius surrounded by acolytes executing his vision — that has permeated the architectural profession for too long. Whether it's Louis Kahn, Frank Lloyd Wright or any number of similar exemplars, more often than not this genius is a white male of European descent. While I do not take issue with "starchitects" in general, this image strikes me as anachronistic these days.

Today, buildings and their contexts are far more complex. To catalyze change we need to embrace that complexity rather than passively subverting it as we have done for decades. This brings me to my main point: We all recognize our profession carries a certain amount of baggage around how architects view themselves and who participates in what we do. The sooner we rid ourselves of this baggage, the better off our profession will be. That's easier said than done, however, and many of us who began our training in the '80s or '90s may not have the tools we need to be fully aware of how we might learn to leave that baggage behind — for good. How might we acquire them, and where do we begin?

Be Open to Outside Perspectives

For starters, we need to rid ourselves of the old-school, know-it-all mindset that we're supposed to know it all. This is especially important when it comes to designing for equity.

I was reminded of this recently when my colleague, Louis Johnson, a landscape architect in Gresham Smith's Louisville office, shared his conversation with a community leader — a Black woman in her late 30s or early 40s — who lived in a small, predominantly-white rural town. While discussing the master plan Louis and his team were developing for the downtown area, the woman said something that resonated with Louis because it's an issue many architects grapple with:

"I just want a place to be comfortable," she said. "I'd like that to be a part of the master plan."

In his quest to understand, Louis asked her to expand on her comment, since comfortable can mean different things to different people. In response, she cited an example of a park in a larger city where she felt comfortable because it was a place where she and her friends could be themselves. They could "be loud and have fun" without fear of being judged or policed. Her implication: There weren't spaces like that for her in her small hometown. This outsider's perspective was an "aha" moment for my colleague in terms of design equity awareness. It made him think more deeply about how people can be made to feel uncomfortable as a result of intentional public policies as well as unintentional decisions, such as the use of defensive design techniques.

This example raises a key question: How do we measure comfort and inclusivity in the design and planning of public spaces? As comfort and inclusivity are often difficult to measure from a planning perspective, it isn't an easy question to answer. Nonetheless, architects must do one thing above all

> "
>
> *The bluest ocean of ideas doesn't flow from a homogenous team of professional practitioners, rather, from a diversity of contributors.*

else to fully address a community's biggest challenges in our desire to design for equity. We must listen. Truly listen. This involves validating all people's opinions and life experiences — an important factor relative to genuine community engagement. If we fail to seek the opinions that matter (and whose matter more than actual users?), we design professionals face a potentially slippery slope as we are called to acknowledge and act on the realities of how our work impacts communities.

Bringing the Outside In

I recently had my own "aha" moment while working on a business development pursuit for an integrated mixed-use project. Having worked on many similar programs throughout my career, my experience has provided a good understanding of the complexity of mixed-used developments.
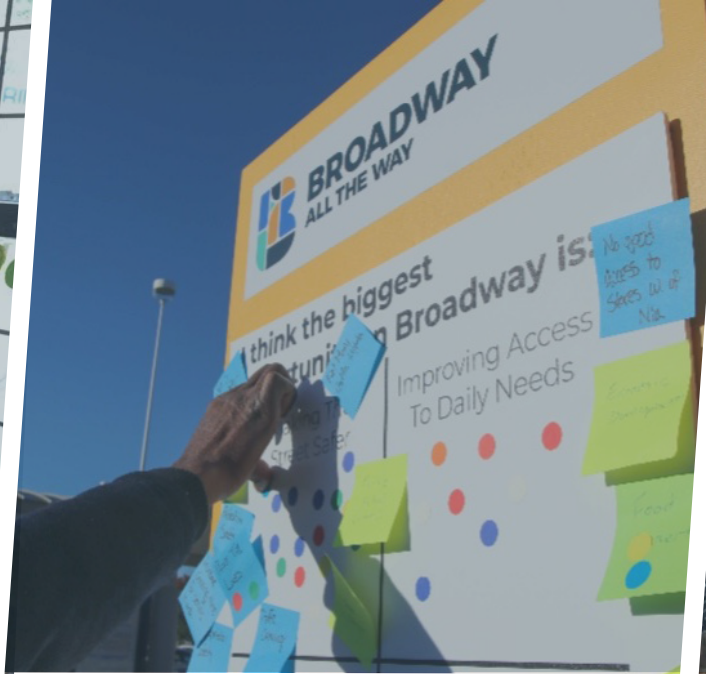
Left, Community engagement was key to the success of Olmsted Parks' Victory Park Master Plan. Middle, Eliciting others' ideas and opinions through creating shared experiences, like the bus-stop breakfast run as part of the Broadway Master Plan, is one of the best ways to attain genuine buy-in on a project. Right, The idea for Produce Park in Louisville, Kentucky, was born out of conversations between Gresham Smith, the University of Kentucky's Department of Landscape Architecture and the local community. The once-vacant lot is now a community orchard that serves as a gathering space for residents of Louisville's Russell neighborhood. Photos courtesy of Gresham Smith.

In such projects, all the pieces must fit together — a difficult task at best. For this engagement, our team partnered with someone from outside our typical sphere of "experts." She contributed significantly to the project conceptualization by bringing a fresh perspective that nobody else on our team had articulated, despite our collective experience and knowledge.

Her viewpoint made me realize that personal experience can be your own worst enemy because it can narrow your field of vision. One of the ways you become formulaic in design is to do something successfully, even if only once. Why? Because it leads to the temptation to repeat that formula. In the case of our example project, listening to an outside point of view changed the momentum and project storyline for the better. The experience served as a personal reminder that we have to be perpetually open to receiving input from anybody — often from groups of constituents who have much to offer but who have had little or no voice in the past.

The bluest ocean of ideas doesn't flow from a homogenous team of professional practitioners, rather, from a diversity of contributors. One of the greatest talents an architect can bring to the table is the ability to integrate. Now, more than ever, it's important for us to actively play the role of collaboration instigators and integrators.

We are good at convening and providing order from a range of narrow, deep experts. Similarly, it's inevitable that other players, like contractors and software designers, will continue to infringe on what we do regarding design. On one hand, we should push back and reclaim some of our territory. On the other hand, we should embrace these other players and work to integrate their various parts, pieces and perspectives in harmonious, functional ways. In other words, we need to be as open-minded and as accepting of diversity, equity and inclusion as we can.

Knowing and Listening to Your Clients

Although the client you're contracted with might be a city entity, when it comes to community planning, it's important to plan for the people who actually live in that community. These end-users are our ultimate clients. Accordingly, we need to learn how to listen to them better. For some, that involves getting comfortable with being uncomfortable. This reminds me of a thought-provoking interview with Black designer and planner Walter Hood entitled "Black Landscapes Matter", (6/24/2020, THE DIRT Magazine.) In it he discusses his experience with white architects who approached him for help working in Black communities. His noteworthy response has stayed with me:

"No, you don't need me. You need to get in there and roll up your sleeves. This is not my problem. Until it changes, we'll be back in the same position 20 years from now, asking why we're not in a diverse profession."

Hood also points out a welcome, unexpected consequence:

He can design for anyone because he has had to learn to do so. That skill, he said, came from having to learn about white America. In sharp contrast, he notes that he hasn't seen that same investment from white designers when it comes to learning about and understanding Black communities.

Intentionally Seek Public Opinion

Regardless of race, ethnicity or orientation, people are at the center of all our work. If we don't roll up our sleeves and do the hard work as Hood suggests — taking the time to get out there and listen to people about their unique experiences and needs — how can we possibly expect to execute inclusive, equitable designs? As Louis Johnson eloquently stated, without deploying equitable design processes, we leave most people out of the equation, which is ultimately a failure. To succeed, we must allow our work to benefit the most people.

One of the ways our Louisville office has been working toward benefiting the most people is through meeting them where they are. When developing the city's Broadway Master Plan, for example, Louis Johnson and his team hit the downtown streets to identify ways the six-mile corridor could meet the needs of all people. The team showed up at bus stops during morning peak hours with breakfast and hot coffee and simply talked to members of the community while they waited for the bus. This allowed the team to garner valuable feedback from hundreds of people — a huge success by any public engagement meeting standard. When the COVID-19 pandemic hit, ever mindful of the digital

divide and the fact that not everyone has access to the internet, computers and iPads, the team switched gears by inviting feedback from members of the community via text messages, as access to cell phones tends to be high across all communities, including lower-income areas.

Eliciting others' ideas and opinions through creating shared experiences like the bus-stop breakfast run is one of the best ways to attain genuine buy-in on a project while encouraging a sense of ownership and security among community members. This is especially true of neighborhoods that have traditionally been disenfranchised or disconnected from the typical public spaces and "right-of-way" areas that we think of as being owned by communities, such as public parks or the front entrances and stoops of apartments. Being intentional about seeking public opinion is a two-way street (if you'll pardon the pun). It's not simply a matter of saying, "Give us your ideas." It's also about sharing our solutions with the community to confirm we've addressed the issues that matter to them the most.

Ultimately, having an attitude of inclusivity can be a catalyst for success. As architects, we have the perfect platform to serve as conduits for diverse perspectives and voices, including voices long ignored. More than developing formulaic solutions, we can help organizations and agencies uncover their blind spots. In turn, we can deliver on our mission to design for equity and community vitality.

Jeff Kuhnhenn, AIA, LEEP AP, is director of architectural design at Gresham Smith. An award-winning designer, Jeff works closely with client and community stakeholders to create memorable, highly functional solutions. His designs have positively influenced a broad range of premier clients across multiple markets, including health care, aviation, corporate office, and commercial mixed-use projects.

Interdependent Relationships

DAVE GILMORE

President and CEO,
DesignIntelligence

Interdependent Relationships

DI's Dave Gilmore examines the essence of mutual dependence in sustained social and business contexts.

Effective leadership moves through a continuum of reflection to articulated strategy to effective communication that results in inspiration, learning and results. Yet the essential skills of effective leaders and managers are their abilities to build relationships. That's where the highest value lies. Effective leaders understand that relationships sustain successful business initiatives. While short-term transactions may be accomplished without a relationship, longer term systemic success cannot. Wise words from the late Stephen Covey reinforce this point:

"A cardinal principle of Total Quality escapes too many managers: you cannot continuously improve interdependent systems and processes until you progressively perfect interdependent, interpersonal relationships."

At DesignIntelligence, we believe relationships serve as the foundation upon which all other leadership elements find their support. The interdependencies of these relationships make or break business initiatives. In a business, human or any social setting, success comes when people align, connect and respect the power of their mutual needs.

If that is true, how do we go about achieving it? Over the years I've encountered many executives who see people as resources to be managed like chess pieces on a chessboard - tokens to be deployed for strategic advantage. To these kinds of leaders, people are expendable commodities. Eventually this management philosophy runs its course. Having ignored the needs of her colleagues and exhausted her resources, the practicing leader is left standing alone, unable to execute like she once did. She has burned so many bridges she is left with no place to cross over her next business valley and is now isolated.

The effective leader understands personal relationships as the prime mover in whatever strategy they might envision for success. They express this value and exhibit this behavior in their own interpersonal dynamics. Relationships are nurtured and grown with peers, direct reports, and others in and around their business. Relationships with vendors, suppliers, customers, and market influencers become core values of the business just like other essential assets. Time is devoted to asking, listening, and caring about others' needs, not merely advancing one's own agenda.

Interdependence occurs when leaders recognize one thing: life is better together than alone. Resident in this awakening is a measure of trust - an essential element to all functional interdependence. As an example, take the multiple dimensions and layers of interdependence required to design and build a building. Developers depend on architects who in turn include subconsultant engineers. The construction team relies on multiple building suppliers and trades for expertise, materials and labor. Examples of such mutual interdependencies are myriad, but many are marked with mistrust as evidenced through the piles of risk-mitigating legal contracts and clauses that have long papered the industry.

Trust is essential to healthy interdependence. But how can you cultivate it? Not by manufacturing or demanding it - rather, by earning it - through your actions and behaviors. The challenge comes in crossing the chasm from mistrust to trust. It's a curious thing to observe mature businesspeople enter interdependent business relationships where both parties' success depends on the other, yet mistrust exists between them. Most would express such mistrust as "*just in case*" posturing. For instance, one might say:

"I eliminate all risk through confining contractual instrumentation just in case the other fails, is unreliable, doesn't follow through . . . then my rear end is covered, my assets are secured, and my receivables are assured."

Honestly, in agreements such as these, let's delete the word relationship and call them what them they are: arms-length, mistrust-based coercive transactions to sell services and earn enough to pay the bills. Hopeful, but doubtful. When this is the way, the parties involved focus on what the other parties might do wrong instead of what they are doing right or could do better together- for mutual benefit. In this context, Abraham Lincoln's reminder comes to mind:

"When you look for the bad in others, you'll surely find it."

In these instances, the opportunities for, and value of, interdependence are lost. The joy of collaboration and potential for synergy disappear.

Every relationship carries risk. People are human and will sometimes be inconsistent, irresponsible, or disappoint us. We all exhibit these tendencies from time to time, but hopefully not when so many and so much depends upon us. To prevent such failures, effective leaders embrace the investments necessary to create and sustain relationships built on trust and integrity. When these kinds of symbiotic conditions are nurtured, relationships flourish. Everyone wins. Let's win. Together.

I recently worked with a firm that was bringing several organizational entities together into a single structure. Prior to this reorganization, each unit had operated as adjacent silos. Each carried a budget with revenue and profitability expectations. Each felt the pressure to perform against the P&L statement.

> *Humbly acknowledging that each needs each to make the most of our contributed collected assets is the sacred charge to each and all.*

In many cases this dynamic drove aberrant behaviors between the units as they postured and positioned for individual success.

In their unified form, what is now making the difference in this new combined entity is their acknowledgement of the value and necessity of interdependence. When exploring how they might work better together - in crossing traditional lines and allowing for synergistic overlaps - they discovered the power of multiples. They suddenly experienced how acceptance, new perspective, and continuous learning yielded unexpected insight, client enthusiasm, and relationship strengths.

As this organization continues their evolution, the challenges they experience are rooted in their daily choices to remain openly postured. Each day presents opportunities to re-converge into closed siloed independence, to guard their perceived intellectual property, to posture for competitive advantage against their own firm peers. In the spirit of interdependent relationships, humbly acknowledging that each needs each to make the most of our contributed collected assets is the sacred charge to each and all.

Relationships require effort to grow, maintain, and deepen. Of all creatures on the planet, humans may be the most complex and psychologically challenging to interact with. Much of the unifying work among teams is getting to know one another. But the yield of such investments is incalculable.

In the best software development initiatives, forming a team prior to launching the project begins with an extended period of socialization. Games, food, lots of beverages, time outside the office... all are designed to convene the team as humans connecting with one another relationally. As the team begins to coalesce, the significant effort comes in maintaining relationship cohesion through the development work. When people are connected, their production and quality excel.

Interdependence offers power not found in standalone constructs. Effective leaders embrace this as a core value for the organizations they lead. They prioritize relationships above every other dynamic.

What kind of leader are you?

Dave Gilmore is president and CEO of DesignIntelligence

Threading the Needle of Opportunity

DesignIntelligence®
Quarterly

DR. SHARON EGRETTA SUTTON

FAIA

Threading the Needle of Opportunity

In this eight-decade personal reflection, Dr. Sharon Egretta Sutton, FAIA, recounts the interplay of obstacles and opportunities she experienced — and offers advice for professional inclusion

Beginning my ninth decade upon Earth in the aftermath of the country's racial reckoning has brought on no small amount of introspection. Having beat the odds to achieve distinction in my field, I feel obligated to take stock and offer meaningful advice to those who follow me in their journey. In hindsight, my career trajectory seems direct, punctuated every decade or so by the nation's swerve to the political left or right, but in real time, I felt as if I was threading a needle through layers of a thick, knotted fabric. You see, I began my journey right after my dad — in his singsong, hillbilly dialect — flat-out contradicted my teachers, my relatives and neighbors, the minister at my church and even my school-teacher mother, defiantly proclaiming:

"Why, this girl can do anything she wants to do."

Emboldened by his I-double-dare-you courage, I inched forward. Since then, I have advanced decade by decade,

Attendees viewing a display at the opening reception of the Sharon Egretta Sutton Retrospective, University of Washington Gould Gallery, 2016. *Author Image*

threading a needle through the almost serendipitous openings that appeared between constraints and opportunities. I share these reflections to help you do the same.

The first opening appeared in 1959 as I was finishing high school in Cincinnati, Ohio, known as "the gateway to the South," in part because of the city's embrace of southern Jim Crow laws that mandated racial segregation. I had set my heart upon a career in classical music but finding someone to provide the requisite instruction proved daunting. So did ushering at Cincinnati Symphony Orchestra concerts with my white classmates when the manager called the police to escort me from the building. Nor could I become a member of Cincinnati's racially restricted American Federation of Musicians Local 1. My only hope for achieving my dream was to head north. After I received a full-tuition scholarship from New York City's Manhattan School of Music, my dad

cobbled together a tiny monthly allowance for living expenses, and I prepared to pass through this first opening. I packed my belongings into a steamer trunk and moved out of my parents' home just as urban renewal was about to destroy the exceedingly pleasant — though segregated — neighborhood where I had grown up.

As it turned out, the opening was a lot smaller than I had anticipated due to New York's unique brand of Jim Crow-like practices that restricted my opportunities to rent housing with the acoustic privacy that would accommodate practicing the French horn. Being denied New York City apartments and simultaneously watching the destruction of homes in my childhood neighborhood initiated me into the brutality of housing discrimination. Searching for a way forward, I realized that I could use the enemy — urban

renewal — to my benefit. I obtained the funding urban renewal offered to rehabilitate a rat-infested rooming house on Manhattan's Upper West Side into a Class-A, rent-controlled apartment building. By 1965, six years after leaving Cincinnati, I had joined New York's American Federation of Musicians Local 802, was touring the unsegregated part of the country and Canada with ballet companies and had received a Certificate of Occupancy on the rooming housing I converted into affordable housing. My career was moving forward.

The second opening appeared in 1968, a year of racial rebellions, Vietnam War casualties, student insurrections, assassinations, Black Power, feminism and cultural expressiveness. Earning front-page attention in the New York Times was a springtime student insurrection at Columbia University so virulent that classes did not resume until fall. Compared with the social dramas of those times, my job in the orchestra pit of the hit Broadway musical "Man of La Mancha" seemed mundane. Even the interior design classes I had begun taking at Parsons School of Design did little to alleviate the tedium of performing the same music eight times a week (by then, I would have played some 1,500 shows).

Paralleling my state of disaffection were negotiations at Columbia related to the student insurgency. When resolution of one of the demands led the School of Architecture to begin recruiting African American and Puerto Rican students, I received a call to come for an interview. I hauled my 30-inch by 40-inch portfolio of Parsons projects into a

Presenting at the opening reception of the Sharon Egretta Sutton Retrospective, University of Washington Gould Gallery, 2016. *Author image.*

meeting with the architecture program chair and received an on-the-spot admissions offer. I had intended to continue working in the theater, but my Columbia teachers admonished that architecture school was a full-time commitment, so I quit my union job and accepted a second full-tuition scholarship. Once again, I had discovered an opening — this one created by demands for justice from privileged white male students.

After spending 20 hours a week in the darkness of an orchestra pit, I moved forward to spend night and day in the brightness of Avery Hall's Italian Renaissance design studios. There, I found another world, where I imagined new spaces for learning and living, studied printmaking in Florence, Italy, became licensed to practice architecture and

discovered a love of teaching at Pratt Institute. Still, some things from my past remained and guided my future, especially the discipline I had acquired to practice, practice, practice. My career had shifted, but it was advancing, powered by a calling to do what I wanted to do.

In 1984, the third opening in the irregular fabric of constraints and opportunities appeared as a result of the swerve to the right that Reagan's landslide reelection provoked. In race-neutral language, Reagan fueled racial enmity, condemning welfare queens, intensifying the war on drugs and publicizing the crack epidemic as the root of all evil — exhortations that incited those who were sick and tired of the civil rights movement. In that inflammatory year, the University of Michigan recruited me as an affirmative action hire. I was terrified of moving out of New York City to the Midwest, where the Ku Klux Klan had the reputation of being the strongest outside the South, but I found an invitation from the renowned "Harvard of the Midwest" irresistible.

So, I moved from the cultural richness of midtown Manhattan to the only place where I could afford the real estate: a rural town outside Ann Arbor with an all-white population of Christian families, each having the obligatory two-and-a-half children. Then, one wintery day in 1987, as I worked in my studio there (questioning my sanity in making the move), I heard on the university radio station faculty and students testifying live for four hours before the state legislature, describing incidents of racial enmity on campus and in town. Bingo! An opening appeared between racism and an opportunity to counter it.

After the legislature threatened to withhold funding until the campus became significantly more welcoming to persons of color, a new university president (the former one having fled during the political fray) put forward an aggressive plan called the Michigan Mandate, intended to bolster the dismally low percentages of African American, Asian and Hispanic faculty and students. I joined several interdisciplinary groups of activist faculty members (mostly from public health, social work, urban planning and women's studies) who urged central administration to look beyond numerical increases and adopt transformative approaches to teaching and learning and dormitory life. Propelled by the Michigan Mandate, university administrators funded several of our proposals, as did the William and Flora Hewlett Foundation, among others.

Having a platform for doing innovative work at a great university opened unimagined doors. With funding from the National Endowment for the Arts and the W.K. Kellogg Foundation, I inaugurated a national program in urban design for youth and used its award-winning outcomes to populate a dossier that guaranteed my promotion to full professor, elevation to fellowship, induction into the Michigan Women's Hall of Fame and election as president of the National Architectural Accreditation Board. The door it did not open was to a leadership position in the architecture program. In fact, the dean took extreme measures to prevent me from becoming chair, his fierce opposition pushing me toward the fourth opening.

Blocked from advancement in my discipline at the University of Michigan, I moved cross-country to Seattle, where I could practice the theories of civic engagement that lay at the heart of my academic scholarship. I vigorously partook in the city's urban design debates as a member of the design commission and chair of a design review board. Under my purview were such projects as Rem Koolhaas's Seattle

Central Library, Peter Bohlin's Seattle City Hall, a redesign of the Olmsted Brothers' Cal Anderson Park and the Bullitt Center, the nation's first building to achieve net-zero energy use. But my most satisfying civic practice occurred during my later years, when I dug into my early rooming house schooling in how to turn discriminatory policies inside out. In this case, I reverse engineered my knowledge of city hall's inner workings to tutor union workers and low-income residents in resisting unwanted development in their communities, amplifying their voices with my own to achieve small wins. Though David never overcame Goliath, the struggle was empowering.

Simultaneous with being a practicing citizen-architect, I was a professor at the University of Washington, where I had negotiated another affirmative action position. There, I reinvented an existing applied research center and used it to stage community design charrettes and design-build projects throughout the Puget Sound region, generating opportunities for public scholarship that reinforced my civic engagement. Then, unsolicited Ford Foundation funding secured my successful passage through another opening, allowing me to lead a 21-person research team in uncovering the incredibly creative work that low-income youth of color do in community-based organizations across the country. As George Bush plunged the nation into the Iraq War, their resistance to marginalization lifted my spirits.

I spent 17 1/2 years in Seattle stitching together scholarship and practice with social activism. Though another dean surfaced to prevent me from becoming chair of the architecture department, I continued moving forward, receiving among other recognitions the American Institute of Architect's Whitney M. Young Jr. Award and a medal of honor from that organization's Seattle chapter. Still, over time, I

"

If you have the courage to move forward, you will succeed. Just be defiant and flat-out proclaim: 'Why, I can do anything I want to do.'

became downright weary of being the only African American on a college faculty that numbered more than 80, inescapable whiteness pushing me toward the next opening: moving back to the nation's greatest, most colorful city to celebrate Hillary Clinton as the first woman president of the United States. As had happened in earlier decades, a tragedy (in this case Donald Trump's triumph) launched yet another opportunity.

Waking up each morning to some unspeakable incursion into democracy, I began to obsess about that old Ford Foundation study that had lifted my spirits during the Bush years. After many false starts, and with the encouragement of a dean at Parsons School of Design who had laid out the red carpet for my homecoming, I decided to use the data to show how idealistic youth of color push the nation toward its democratic ideals while remaking their disinvested neighborhoods with their hands, minds and hearts. I steered a manuscript through to publication, this latest opening littered with debris from George Floyd's murder and the worldwide protests against U.S. racism that it unleashed, a global pandemic that secluded me in my apartment for 80 days, an attack upon the U.S. capital to prevent Joe Biden's reclamation of the White House, unfathomable fires and floods resulting from an ignored climate crisis and, at last, the declaration of Juneteenth as a national holiday. Though it is too soon to see up ahead, I know that another opportunity awaits my courage to seize it.

So, you see, my career trajectory has been anything but direct. Like the nation's journey toward democracy, it took many twists and turns as I encountered — and reencountered — constraints and opportunities. At each moment in America's halting progress toward its founding declaration to embrace all and not just some, a door would open or slam shut, sometimes due to societal or institutional forces, sometimes due to a single individual. But I always found just enough space to continue my trajectory toward democracy's promise. Despite constraints, opportunities invariably emerged and summoned my courage in seizing them.

As you move forward along your own path, I pass that courage forward to you. Recalling the wisdom my dad offered to me when he was in his ninth decade, I intone his hillbilly dialect to say,

"Only strong people get old; the weak ones quit when the going gets rough."

Today's world is indeed rough — much rougher than when I started out. In your journey, you will need to thread a needle through layers of fabric that multiple crises have ripped apart, most notably economic inequality, extreme climate and hate-filled intolerance. But I guarantee you that openings will appear between the formidable constraints and unimagined opportunities that await you. If you have the courage to move forward, you will succeed. Just be defiant and flat-out proclaim: "Why, I can do anything I want to do."

Dr. Sharon Egretta Sutton, FAIA, is distinguished visiting professor of architecture at Parsons School of Design and author of a forthcoming book, A Pedagogy of Hope: Pursuing Democracy's Promise through Place-Based Activism. *Her early outspoken advocacy for using participatory research and design to help disenfranchised communities change their circumstances position her as a pioneer in moving the field toward inclusion.*

Inescapable Interdependence:
'No Man Is An Island'

DesignIntelligence
Quarterly

PAUL HYETT

RIBA, Hon FAIA,
Vickery Hyett Architects,
Founder—Partner

Inescapable Interdependence: 'No Man Is An Island'

Re-examining the tenets of interpersonal responsibility

Reading

Someway into my first project design tutorial with Stephen Mullin I was taken aback when he asked, 'What are you reading at present?'.

Reading?

I wasn't *reading* anything and hadn't since starting college. The reading list issued to Canterbury's first year students had comprised, almost to a book, a grimly dull account of architectural history. Only Le Corbusier's 1927 manifesto '*Vers Une Architecture*' (accessible to us courtesy of Frederick Etchells' translation as '*Towards a New Architecture*') offered any vision of hope and change. Why should we read? As first year 'architects' we were about the future not the past, about talking and drawing, not reading or writing.
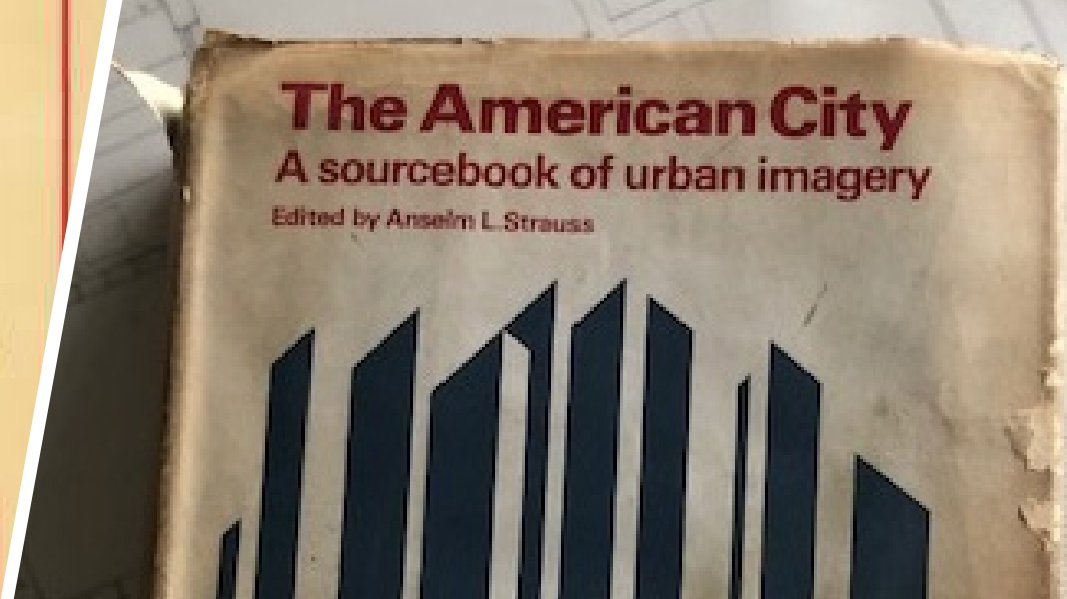
Le Corbusier's 1927 manifesto 'Towards a New Architecture.' *Author image.*

'The American City,' edited by medical sociologist Anselm Strauss. *Author image.*

Mullin (who thrust Jane Jacob's '*The Death and Life of Great American Cities*' into my hand), and the Architectural Association (AA), changed all that.

Having mounted a futile challenge against its staid curriculum, I had failed Canterbury's first year, a failure that was to be hugely beneficial to me. Rather than re-sit, I managed to transfer to the AA where I was immediately exposed to wide ranging and conflicting views on architectures and architectural ideas past, present and future, all delivered through exposure to a rich combination of provocative lectures, lively seminars, and challenging 'crits'. Together they formed part of a wider 'discussion' that found expression through articles, journals, books and (even then) videos as the antecedents of today's podcasts.

Such a pedagogy is ultimately based on *dependency* - *e*ach new generation's reliance (at least as a point of

departure) on the collective work, thought and teaching of previous generations. In addition, this process often leads to the ongoing development and realisation of ambitions, agendas, and manifestos of one generation through the work of the next. Thus the symbiotic notion of *interdependency* creeps in.

Fascinating fact: take a late Stone Age child from around 5,000 years back. Sophisticated languages were well developed by then and various systems of characters representing linguistic sounds were emerging as 'writing' to replace more primitive pictorial communications. Fast-forward that child to today: how far could she advance through our educational system? Answer: all the way. Yes, the human brain had the power, way back in the Stone Age, to receive, acquire and usefully apply all the knowledge and training expected of a youngster today. Nature and nurture permitting, and with appropriate opportunity and input, tertiary education and even

a PhD would all be accessible for that Stone Age child. A specialist in cognitive issues once explained to me that the human brain has evolved very little since the later Stone Age. In that respect, it can be described as a computer's hard drive. What has changed is the software - what we 'feed' and how we 'programme' our brains for knowledge accumulation and operating systems. Scary stuff that aptly illustrates our reliance on previous generations to pass down knowledge, theory and training. This is about *dependency:* a one-way transmission which each subsequent generation receives from its predecessors.

Now consider the pressing agenda of global climate change. The well-being - even survival - of future generations has become increasingly *dependent* on the commitment and performance of its antecedents' responsible conduct and regulation. But it is for the sake of our children's children, not ourselves, that we seek to ensure that our planet is preserved and respected. This is *dependency* rather than *interdependency.* It runs principally upstream. Only concern, responsibility and hope run downstream: we *want* future generations to adopt and improve on our work against this agenda for their sake, not ours. But our own well-being doesn't depend on their commitment or success. In contrast, the essential viability of our planet as a host environment is contingent on our efforts. In that respect, future generations depend upon *us*.

In the ecological agenda, *interdependence* prevails, but it is mostly grounded within concurrent time frames. Each nation *depends* on the parallel commitment and perfor-

The arch of Wembley Stadium. *Vickery Hyett..*

mance of its sister nations to deliver responsible policies that will 'save' our planet. As my friend Paul Finch says, *interdependence* is fundamentally reliant upon collaboration.

Turning to the world of construction, at its crudest and simplest level, *interdependence* manifests itself as a weakness. The architect *needs* the structural engineer, the facades engineer and the services consultant to do the detailed design and calculations as these specialties fall outside our skillsets. In contrast, unique rich outcomes often emerge from collaborations between disciplines. A good example would be Schlaich Bergermann which, as structural engineer specialising in compression ring

> "
>
> *In this respect, we must be ever cognisant in place and city making that the way we work, and what we work for, demands increasing operational interdependence across an ever-widening spectrum of disciplines.*

systems, has given architectural expression to a range of beautiful roofs for a variety of stadiums. In contrast, the collaboration of Jorn Utzon and Ove Arup for the Sydney Opera House involved the engineering of a pre-conceived architectural form, but the interdependency of the architectural and engineering disciplines is obvious. The jury is out on Wembley Stadium: was that infamous arch initially proposed by the structural engineers (Mott MacDonald) as an engineering solution designed to carry the eccentric and dynamic loads of a 'moving' roof, or by the architect as an eye-catching architectural feature and landmark? Either way, the interdependence of the respective professional disciplines is evident. The architectural profession also sees regular interdependencies between individuals *within* firms. Some of these

collaborations are expressed in the very name of the practices. In the UK, Powell and Moya of St John's College fame and Chamberlin Powell and Bon as architects of the Barbican are good recent examples. The current RIBA President's firm Alford, Hall, Monahan and Morris (AHMM) is another. In the latter case the partners met and worked together at college then developed *interdependent* careers within what has now become one of Britain's largest and most respected practices.

Other UK firms, such as Terry Farrell and Norman Foster, have been more discrete about internal operational *(inter)dependencies*. Inevitably, despite the relatively lower profiles that exist within such organisations, there is usually a powerful support figure or figures) who are critically important enablers of interdependent relationships. Such interdependencies also exist across the ranks, and up and down any firm of size within the construction industry: star-designers need the technical and delivery teams which, in turn, need the stars.

Following graduation, my 'education' continued, courtesy of a recommendation by Stephen Mullin, at the office of avant-garde architect Cedric Price. Just a few weeks into that job Cedric asked me what I was reading. Nothing, of course: I had finished college. Marching over to his bookshelf he invited me to choose two books. I selected Peter Hall's '*London 2000*' (a self-confessed 1963 attempt *to 'uncover the problems that lie before us in reshaping London*') and Reyner Banham's '*Theory and Design in the First Machine Age*'. My new boss then told me that he

only ever lent one book at a time, and handed me Banham, carefully making a diary note for a seminar some three weeks later at which I would present him and the office with my thoughts on the read.

Fast forward half a century to May 2021. I am again in Stephen and Sue Mullin's flat for lunch. Mid-conversation, Stephen wandered to his bookshelf and pulled down a battered copy of '*The American City*' - a 1968 collection of some ninety short essays dating as far back as 1900, as edited by Anselm Strauss, a medical sociologist. Per chance, this extraordinary book sets out, with stunning clarity, the case for *interdependence.* Here, we find essays as diverse as '*Why the Police Are Not More Effective*'; '*Keeping the Peace in Skid Row*'; '*Symbolism, Space, and the Upper Class*' (respectively penned by a Chief of Police and two sociologists) and '*The City Beautiful: Trees, Parks, And Other Open Spaces*' by the great landscape architect Frederick Olmsted of New York's Central Park fame.

This extraordinary book is structured under seventeen sub-sections against sub-headings such as '*Perils of the Great City*', '*Poverty and its Solutions*', '*Democracy, Politics, and Municipal Reform*', '*Order and Disorder in the City*', '*Suburbia*' and '*City Planning.* But it is the very diversity of this structuring and the collection of essays that lie within each sub-section that so aptly illustrate the essential *interdependence* of the disciplines and agendas that must be satisfied. Their often-conflicting agendas must be reconciled across delivery, operation, and main-

> "
>
> *We can only succeed if we collaborate across the widest of disciplines and co-operate across national boundaries. We live in a finite environment. We are interdependent, one on all.*

tenance if we are to see success in any work that the building professions, from planners and urban designers to architects and engineers, carry out.

Other American essay collections such as Gates and Stout's '*The City Reader*' (1996) brought together diverse themes through brilliant essays by the likes of Kevin Lynch, William Whyte, Christopher Alexander, Delores Haydon, Lewis Mumford, Michael Young and Peter Wilmott, Ebenezer Howard, Raymond Unwin and Patrick Geddes. Again these were organised within discrete subject areas as diverse as *Urban Form; Society and Culture; Politics, Governance and Economics; Urban Planning* and the *Future of the City*.

Stark evidence of the interdependency so well illustrated in these publications was evident on my journey to the Mullin's home as I travelled along Islington's Essex Road. Here, to the ultimate shame of that London Borough, the larger parts of one of the most interesting municipal housing projects of the Post-War era have recently been demolished. Designed by the distinguished architects Darbourne and Darke, Marquess Road, a dense low-rise scheme ranging between three and six stories, offered a deliberate alternative to 1960s tower blocks, taking the form of a series of streets and alleys of predominantly single-family houses with gardens set around green spaces and elevated courtyards.

The scheme was initially applauded as an exemplar of good housing design by the Department of the Environ-

ment. But soon after its opening, the project gained a fearsome reputation as an area of misdemeanour and occasional serious felonies. Police reports claimed that the tightly compact intricate design lent itself to crime and problems became so acute that the Council ultimately decided to demolish 463 of the homes, replacing them with a dreary and substantially inferior, albeit simpler development.

Such a 'failure' was all the more surprising when set against Darbourne and Darke's earlier, phenomenal and enduringly successful Lillington Gardens project, a similar design of some 540 flats housing some 2000 people in the London's Borough of Westminster. Completed in 1972, this project remains popular with residents and critics to this day. Though slightly more complex in its design, Marquess Road had adopted a similar design approach, but the two Boroughs carried differing challenges and problems. The contrasting fates of the schemes highlights the *interdependency* of issues such as tenure, tenant selection and home allocation, maintenance, management, policing and, dare I suggest, education, social behaviours, and citizenship. Get any one of these wrong, or any two or more out of kilter, and disaster looms. In this respect, the interdependency of the enormous range of professional disciplines involved in programming and brief forming; concept and design development; master planning, urban design, architecture and landscape; interior planning; security, wayfinding and circulation; maintenance and management; tenure and allocations; and policing, complaints and

enforcement, is highlighted in the sharpest and starkest of fashions.

All this requires an appreciation of the broad agendas that must inform *intelligent design.* In this respect, we must be ever cognisant in place and city making that the way we work, and what we work for, demands increasing operational *interdependence* across an ever-widening spectrum of disciplines. Never has this been truer than now as we face the daunting challenge of designing tomorrow's eco-sustainable world. As John Donne wrote in his famous poem of 1624, later delivered to great effect as a sermon: '*No man is an island*'.
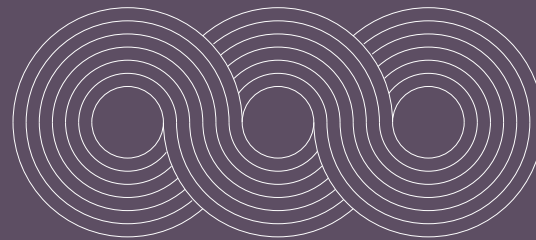
> '…….*every man is a piece of the continent,*
> *a part of the main;*
> *if a clod be washed away by the Sea, Europe*
> *is the lesse,*
> *as well as if a Promontorie were, as well as*
> *if a Manor of thy friends*
> *or of thine owne were; any man's death*
> *diminishes me,*
> *because I am involved in Mankinde;*
> *And therefore never send to know for whom*
> *the bell tolls;*
> *It tolls for thee*'.

We can only succeed if we collaborate across the widest of disciplines and co-operate across national boundaries. We live in a finite environment. We are interdependent, one on all. These realizations frame an awesome and awful truth: ultimately, real progress against the eco-sustainability agenda demands the absolute unqualified commitment of China and the USA. If its leadership so directs, the Chinese people have the subservient nature and discipline to buckle down and deliver. But *even if* the American leadership was to comply, its people seem unable to break the yoke of their passionate beliefs in freedom. Many of those beliefs are immature and ill-defined: freedom to plunder resources? freedom to impose havoc on future generations? 'America First' in every context and against every agenda?

The survival of humankind now hangs precariously in the balance at this nanosecond to midnight. The world needs America's participation, leadership and spirit more than ever before. We also need America to again recognise that upon this planet, we are inescapably interdependent.

Paul Hyett is a founding principal of Vickery-Hyett in the U.K., past president of the Royal Institute of British Architects and a regular contributor to DesignIntelligence.

OBSERVATIONS

Givers reject the notion that interdependence is weak. Givers are more likely to see interdependence as a source of strength, a way to harness the skills of multiple people for a greater good

- Adam Grant

The task that remains is to cope with our interdependence - to see ourselves reflected in every other human being and to respect and honor our differences.

- Melba Pattillo Beals

Two did not become one, but rather two came together—each one strong, healthy, and resilient, making the whole steadfast and true. They didn't lose themselves in each other but found themselves in each other instead."

- Jennifer Lane

I would like to remember that you and I, we...began things properly. Slowly, deliberately, in the old way: as if we meant it."

- Waylon H. Lewis

I've learned that it's never either or. It's always both... there's no such thing as fault. Fault is only something we can ascribe when we see things superficially. When we look deeper, we see multi-layered, complex systems of causes and effects which affect and are affected by all individuals involved. Fault is a useless concept. Responsibility, however, is the most helpful concept of them all. It's not my fault. It's not his or yours or theirs either. But it is all our responsibility. When we come together like this, we don't have to see-saw back and forth, passing on guilt and blame. We can grow. We can evolve. We can build a better world."

- Vironika Tugaleva

DesignIntelligence
Leadership Institute

HOW WILL YOU DEVELOP YOUR FUTURE LEADERS?

"The life of a leader who gives themselves to continual learning will enrich a wide circle of others. They will take in much and give out even more."

– Dave Gilmore, President & CEO, DesignIntelligence

di-leadershipinstitute.com

Design
Futures
Council

Boston, Massachusettes • November 8-9, 2021

LEADERSHIP SUMMIT ON
THE BUSINESS OF DESIGN

Leading New Organizational Constructs

REGISTER TODAY

A growing portfolio...

More materials, shapes, forms and capabilities for healthy spaces

NEW ACQUISTIONS FOR PRODUCT OPTIONS

Arktura

Turf Design

Móz Designs

MetalWorks™ Linear – Synchro

Wall Reveals

SimpleSoffit™ Framing system

DETAILS MAKE THE DIFFERENCE

DESIGN OPTIONS

Tectum® Create! panels
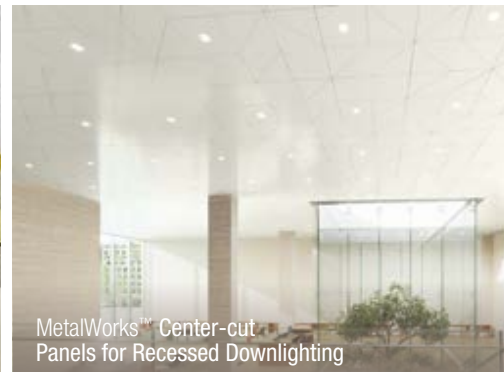
MetalWorks™ Center-cut
Panels for Recessed Downlighting

INTEGRATED LIGHTING

You Inspire™
Solutions Center

ProjectWorks® Services

Armstrong Living Lab

NEW OPTIONS FOR HEALTHY SPACES

Armstrong®
CEILING & WALL SOLUTIONS

DesignIntelligence®
Quarterly