Sharon Sutton: We found it would be a little bit presumptuous to develop this research agenda. We have instead developed a value filter for how that agenda should be established. It has three characteristics: It should improve the human condition. It should improve the ecological condition. And it should advance social environment effectively.

We have some principles for methodology that came out of the keynotes and, like the presentations that we’ve heard, have put us all on the same page. One is the creation of credible knowledge—in other words, research that promotes change and, specifically, research that promotes policy change. It’s political change, and that is collaborative.

To get to a research agenda, we’ll follow along this methodology with the idea of the AIA establishing a think tank, budget permitting. For example, the Aspen Institute had a think tank on comprehensive community development that went on for a couple of years. Numerous foundations contributed all of their ideas about comprehensive community development, and the Aspen Institute organized the results. I mean, you’d think that that would be the sort of effort appropriate to develop the research agenda.

Next is Ken. We’re doing this collaboratively, in the interest of collaborative research.

Ken Ross: The second question we considered is what kind of institution or grant formation needs to support our research agenda. We need to get away from the turf and the silos of the design professions and the industry at large, but we need to be much more inclusive, much more collaborative. We need to start thinking of ourselves much more as the American Institute of Architecture rather than just as architects.

There also needs to be a transformation of the practice model where we understand that there is a methodology that parallels practice and complements research. It starts with defining our hypothesis. Not just coming along and doing a post to document the evaluation
and then define the questions later. That's not a sound form of research and will not have a lot of credibility that we really need. We need to inform the practice dialogue on what that means. We also feel that one of the transformational roles that the AIA can have is to really become a leader in the advocacy and the leveraging of resources supporting research.

The AIA brand and credibility really needs to be brought to this situation. In our discussions, we realized that the AIA isn’t going to be able to fund all of this, but we can create the seed money. It will only grow rewards if it indeed has the credibility that goes with that money. What we choose at the beginning of the research, as supporting the research, was the need to have a high level of credibility. This would establish our position in the marketplace, opposed to just funding at a higher level.

**SHERRY AHRENTZEN:** We can now revert, returning to the beginning of social research for a few moments. We were just dealing with research in architecture; all of these recommendations are really aggressive in that broader goal. In terms of the third question, we really pursued what resource changes would be needed to support institutional transformation. Underneath it all is political will. How that will would come about, we didn’t say. Whether it’s trying to leverage social capital resources or financial capital resources, you have to have the political will. There has to be a passion and a commitment that this is going to change and this is going to be effective. That’s one thing that we thought was really essential.

The second thing was the metrics that we use to measure the outcomes, to measure the importance of what we do. They have to be much more sophisticated and credible, not just to the people who are affected by it but also to the people who are looking to make changes in organizations and in environments, whether that’s a business community, public officials in
different agencies, or whomever. Our metrics have to be much more sophisticated than many of them have been to date. We talked about having common metrics, and we all think there could be a process of looking at how to make more credible metrics.

Third, we discussed the term of a period, or a quorum, for disseminating knowledge. Not necessarily emulating an academic theory—theory not only in terms of judging the quality of a research paper or study but also its applicability, its use inspired with relevancy. Also not just thinking about presentations or just publications but also Web pages, workshops, or whatever else would aid in successful dissemination.

We also talked about foundation support and government funding. We always tend to think about government funding as being inflexible. The AIA and the profession could have more of a leveraging role for expanding government funding. A person cannot say “how” or “what” to NIH or HHS or UNICEF. For example, we need to consider how the word “environment” is used in environmental problems when you’re talking to the environmental health agency. How are the AIA’s and profession’s goal conveyed to them so that this is part of their agenda as well?

There is also something that feels like an untapped resource that is really important: There are a lot of the foundations out there. For example, in the presentation yesterday, Matt O’Donnell talked about bioengineering and how that really became a field. He was saying they had the same problems with their research proposals 30 years ago. They sent it to NSF and nobody was going to fund it. They got a huge start from the Whitaker Foundation that funded all their research to begin with. They became much more acceptable after that, and the nature of the funding changed as well. McArthur Foundation, Kellogg Foundation—we should consider asking them, plus there are a lot of other foundations. We could start by thinking about making outreaches to them and getting some of those resources as well. The grant development could be not in terms of working just as individuals but also with the professions, or the collective, in trying to get some of these funds.

**Questions, answers and thoughts**

**Q.** You’ve mentioned the American Institute of Architecture. Can you elaborate on that a little bit?

**A.** I think everybody may not have heard the question. It was kind of an inquiry as to the terminology of the American Institute of Architecture rather than the American Institute
of Architects. I think that was a way of saying that we’ve kind of built our industry around licensing law instead of a full integration of all the disciplines that create architecture. If we broaden the definition of the Institute to be more inclusive, more collaborative, it would enhance the research environment that we’re looking for as well as the collective knowledge to address the research problems that we need to propose to be credible in the marketplace research model.

To elaborate on the Institute of Architecture, just so it doesn’t get lost, this would be an idea of bringing together all the disciplines that relate to construction and rebuilding of the natural environment rather than separating by current disciplinary divisions. And consider bringing education into the practice group so that there is not a separate planning educators’ and architecture educators’ organizations as well as separate professional organizations.

We also went around the room a little bit, and they thought about other professional organizations like the American Oncology Association or the American Planning Association. By having them titled by the role of the person versus the nature of the issue or the problem and by thinking about the creation of our profession, that may make us rethink what the organization could be about—such as the notion of more educational, professional, and industry integrated within a profession instead of silos.

Q. What do you mean by think tanks?

A. A forum that would allow a variety of the people of different ages and from different disciplines, industries, and institutions to get together to identify and discuss the emerging social trends and how do we want to affect those. How do we want to engage what’s happening in the world around us?

It is also more than a one-day affair for this think tank. To really develop concepts, you need some longevity—maybe not necessarily that it all goes on in the same place but the same goals within the think-tank concept.

**Thoughts about peer review**

The notion of peer review is intriguing because of the concept of the quality that the AIA grant could bring to knowledge formation. That information and knowledge becomes very credible because of peer review. What I like about the idea of peer review is that the Institute doesn’t necessarily have the ability to vet content as well as it could, and this could help establish credibility. If you researched it some and you have peer review by individuals who also have expertise in the content, that’s a credible review of the content. Peer review is really an interesting vehicle to formalizing the step to creditability.

You also have to keep in mind that peer review is not a one-way kind of thing. It’s a conversation. By putting a piece of work into the peer-review process, you are able to enlarge what you’ve done with other people’s expertise. So, it’s really essential to be collaborative in the process of a peer review.
Cultural Research
Workshop Report

**David Brown**, University of Illinois Chicago (Lead)

**Shahin Vassigh**, University at Buffalo

**Bruce Blackmer**, FAIA, NAC Architecture, NAAB

**Pam Loeffelman**, AIA, Perkins Eastman Architects PC

**Edward Vidlak**, AIA, Leo A. Daly

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**DAVID BROWN:** We stuck with culture and focused on trying to develop a working model for cultural research. We went through some of the larger questions that had been raised in debate: workforce development, disaster mediation, plans to change energy and building production, health care throughout the city’s aging infrastructure, water availability, urbanization, and demographics. Then we investigated which aspects cultural research could begin to affect in terms of climate change—subcategories of climate change such as disaster mediation, energy in building production, growth of cities, demographics, relationship to urbanization, and other subcategories.

From there, we started to think through means of culture-related research that might offer a model. We also considered various trends principally related to demographics. Implied in this was consideration of groups that architects might begin to affiliate themselves and collaborate with, such as anthropologists, planners, behavioral scientists, psychologists, political scientists, and economists.

Also under consideration was how to begin to get funding or to see what the funding sources. How some of those groups start to understand architecture, relative to them, might generate the ability to secure research-grant proposals by working together. We came up...
with a model that was more about how—working within practice and in part with architecture or other schools—we can provide research in terms of broader trends. The goal would be to make that available to practice at the same time to schools in a short cycle of 4 to 10 years.

Students have started to filter into offices. Offices will then begin to have interns with some research background. In addition, over time, you might see the formation of more research-based practices. Perhaps continuing into the future, there could be partnerships between schools and practice in which academics serve residencies within offices. This would make another research bridge. The institutional changes most relevant to those ideas involved accreditation and nonproprietary incentives.
Another approach is to start to look at how schools might prioritize research relevant to education as the core value. Related to that is how we actually help students develop the ability to frame appropriate questions. Related to resources is a suggestion that there might be a database created of agencies that have provided funding in the past.

We are looking toward a broader range of collaborators that the architecture profession might work with and, perhaps at the same time, foster those relationships that architecture really needs to take the lead in, pulling together for the common good.

**Questions and comments**

**Q:** I’m intrigued by the idea of having residencies in an architecture firm. I’m wondering if there are some exemplars or models already out there that we could use to, sort of, jump-start on this?

**A:** There is a model in Swiss education that’s not universal, but more than one firm in one city brings in a faculty member so that professional students can do internships in professional offices. They are internships targeted toward research that is meaningful in those particular offices. This gets students out of schools and into a professional setting.

**COMMENT:** I just offered a suggestion to the IDP Coordinators Conference in Chicago last weekend: that the relocation of internship into professional education can be a variation of the youth and education system.

**COMMENT:** Actually, the University of Hawaii’s … set a basic requirement of the degree program where the students are placed in offices to do research.

**COMMENT:** We did spend quite a bit of time also talking about the American culture and changes that have happened in terms of how, even when we move to those cities, certainly we had knowledge of grants and development constraints.

**COMMENT:** Henry talked about how this is a very broad issue, and culture is the sum total of so many things: climate, traditions, religion, language, all these issues. I didn’t really hear about some of the research topics. One of the topics, I think, that is important is the local content versus the global content. We are living in a globalized world, and many of the buildings in Africa are designed based upon buildings in other parts of the world, especially the Far East and other areas.

Some of them have difficulty, sometimes, adjusting to the local concept. They have to be educated by the local architects, the ways of the government. I’m just wondering whether this globalized culture is the way to go up, or we should still carry the local culture and design buildings following the local traditions? And if we take the second route, then what kind of research do we need to better adapt?

**A:** We can really talk about that directly, but I think one of the things that was coming up was part of why we were saying the issues that get marked were related to culture.
In a way, you needed to have the solution related to what will have some cultural relevance or otherwise just be adopted. You could not have a technologically sound solution, but it could bring you resonance with culture, and the firm can see an adaptation. To be on the other side of that question, I think, in some ways, local culture is having a larger impact on all cultures. … How can you embrace local culture but not be so certain that that’s going to be a typical exclusion of global culture that simulates and operates best on scales that are larger?

**COMMENT:** On a slightly different topic, I understand the need, first, to embrace educators … to have a better understanding, but as a practitioner, we’re asked to be teachers, but we’re hardly ever asked to be an active part of the research. I’m wondering how academia and the practice could come together around some of these critical issues that are far beyond just teaching a design studio.

**COMMENT:** There were 25 PhD programs 10 years ago. There are more than that now. Those are places where practitioners’ offices could go with their research questions. When you have students who are learning methodologies and who are learning to pose questions, I think that practitioners coming in with their topics are all too colloquial and are about emerging issues. So, I think that the internships have worked both ways. There have already been some precedents where the universities have actively engaged industry partnership to participate and to help the educational community understand what the topics are. At the moment, as well as in the future, this is particularly relevant to the industry so that they feel that they need research but that they can’t actually deal with it on their own. So they’re partnering with education systems around the country, trying to make sure that educators understand which issues the industry hopes will be researched.

**COMMENT:** Well, I understand the need to understand how to ask the question, but I was actually talking about integrating practitioners into the research process, not just to ask questions. So, just a thought: If we imagine a road where students and interns are structured into “graduate” profession, then the experience is twice as rich as a traditional structure or a loosely structured IDP experience. I say twice the richness because even though IDP is overbureaucratized, it’s underenforced. Nine times out of 10, satisfying IDP is finding a principal or someone to sign off. There is no way to really investigate the extent to which the content is finding its way to the end man. We should establish a program where internship has closer connections between firm instruction and the professional degree programs. For instance, having an internship be able to work toward completion of academic credits. I offered the idea that, just like we have the least amount of overlap with educational programs, the purpose is to gain research work and get special training.

So, imagine if there’s a condition of employment which, by the way, would be in line with the interest and specializations of each office, as it often as in Cincinnati. Imagine if this intern had five hours at least per day per week, and research was done in the office itself and using its networks. You could preserve the sort of core characteristic of an educational environment, which is independent thinking, within a working environment that’s highly conditioned by dependency on working relationships. So, the practitioner would be the partner, and the structure and schedule of research activity would be outside the university institution. Does that make sense? I guess what I’m trying to evoke is this: Why aren’t academics inviting architects into hard-core research?
COMMENT: There are examples of that, but why is it not more common? I think it is because we had few examples. I used to go to the University of Wisconsin in Milwaukee, and my colleagues there are focusing on issues with ageing and associated endeavors. They’re always debating those research questions. There’s also collaboration with the research system so that we have office of applied research at the university. I actually participated in industrial design. An industrial designer does applied research. It’s a reason why they collaborate. I think it’s because those industrial designers are able to combine design and research by applied works, but why architecture does not match industrial design.

COMMENT: I can’t miss the opportunity to remind you that in 2005 we investigated exactly that very issue—that one-third of that project is actually developing a model to create the opportunity to bring practitioners into research along with researchers and clients. Inviting practitioners into research causes an intelligible program and enhances research already underway. I think we agree that closely to the last 50 years American professional education marginalized researchers, and it allowed us to identify things that weren’t really research as research. And that’s why it was marginalized.

COMMENT: It’s not about me. I’m always in our discussion about the research agenda, and since we were assigned the cultural research, while the sense was that it should be funded, we have to stretch. A funding body might look at architecture in a paler light than other bodies—say, in the cultural realm, for example—and find that offices or others are more credible in cultural issues. So, maybe, we should be thinking about where can we be credible.

That’s what led our group to thinking about climate change and trickle-down subjects that fall under that to give us an area where we can be credible and people can look to us as leaders and study subjects. They fund disciplines that focus on those issues. So that we remain strategic in how we define our agenda by selecting those things that best can be funded and where you’re going to see the biggest change.
Environmental Research
Workshop Report
Raymond J. Cole, PhD, University of British Columbia (Lead)
Mir M. Ali, PhD, University of Illinois Urbana Champaign
Gordon E. Mills, FAIA, Durrant Group Inc.
James Detersman Jr., AIA, Cochran Stephenson & Donkervoet Inc.

RAYMOND J. COLE: Future building-related environmental research will invariably be influenced by three key factors.

• First, it would be necessary to cast “environmental” research integral to other current architectural research domains. Indeed, future research to address “environmental” issues will invariably be more holistic in its framing and execution, and will be more directly related to practice. That is, boundaries will become increasingly blurred.

• Second, the rate of change in public and political awareness of climate change and environmental degradation will translate into a demand for significant improvements in building performance to be made in shorter time-frames. Research will have to address this urgency and address significant leaps in performance rather than incremental change.

• Thirdly, the environmental agenda cannot be isolated from a host of other pressing/emerging societal concerns—security, healthcare, aging populations, information and communications technologies as well as climate change and environmental degradation—and it will be necessary to understand the ways that they collectively influence building design and their consequence for building environmental research. Architecture research should build on its inherent strengths of synthesis/system-thinking of the discipline it serves.

Over the past two decades, research has clearly amassed a considerable amount of information, knowledge and experience related to the environmental performance of buildings. Within this context, a key notion considered of significance in environmental research is the “aggregation of knowledge.” The workshop considered several aspects and benefits of “aggregation” including:

• Drawing together what we already know and creating a more effective capability the capability for its dissemination. This will reduce duplication of research effort and enable practice to readily access to the best information.

• Drawing together information from a broader range of disciplines rather than simply those related to technical performance of buildings. A great deal of environmental research is currently technically framed
with little reference to social/behavioral issues. Research is needed to understand the relationship between technological and cultural advance. At the building level, this translates into the way that building occupants understand and relate to emerging green technologies and strategies. Gaining a much better understanding of what works and what doesn’t, and why through Post Occupant Evaluations will significantly enhance future building design and performance.

- Understanding the consequences of transferring knowledge and experience from one cultural context to another. The development of cultural “filters” that evaluates the benefits, consequences, or knowledge and experience generated in a given situation when applied in a qualitatively different one, would significantly assist in the developments of place/regional-specific building design.

- Understanding what strategies are appropriate at different scales. Currently, the focus of building environmental performance resides at the level of the individual building and creates approaches that emphasize “autonomous” buildings—onsite energy generation, water harvesting, waste water treatment, etc. The relationship between building and community scale strategies is currently poorly understood.

“Aggregated” information and knowledge has two roles:

- To positively influence the context in which design occurs—the political, economic and social context that influences the demand for buildings with high environmental performance—that is, increasing the demand for green buildings. Moreover, aggregating the environmental improvements and direct and indirect cost savings associated with improved building environmental performance would offer considerable weight to the importance of, and need for, and funding more research.

- To provide a repository of the best information, knowledge and experience required to guide design.

Four general notions framed the discussion of emerging environmental research agendas: “Intelligence” and “Nature” and an understanding of the relationship between “real” and “virtual” environments and the ways that designers engage in each.

The notion of intelligent building is an acknowledged area of inquiry, and will increasingly be linked to green building design. As such, where future building design will draw “intelligence” and where will it is placed in design has consequence for framing environmental research, for example:

- Drawing on the wisdom in natural systems and processes.

- Where “intelligence” is assumed—either implicitly or explicitly—in the provision of controls and occupant comfort.

- “Smart” materials and the synergies between design strategies/environmental technologies.
Architecture has a long history of drawing on Nature for inspiration and direction. It is reasonable to assume that any transition to an environmentally sustainable future will invariably parallel the rate and extent to which we model all human enterprise—including buildings, infrastructure and settlement patterns—on natural systems and processes. The emerging science of “biomimicry,” for example, has already highlighted the potential for nature’s wisdom to guide industrial production and for its operational principles to offer a source of both inspiration and direction for building design. Similarly, the notion of regenerative design seeks to embody intelligence in buildings by infusing them with the ability to respond, adapt and change positively over long life spans. More research is needed to understand which lessons and experience can legitimately be learned from nature to guide building design and construction. William McDonough’s distinction that components of within a natural system are extremely “effective” and the overall system is subsequently is “efficient” is of considerable importance in framing environmental research. In contrast to the majority of earlier research that has primarily focused on individual buildings, building design, and therefore building research, must acknowledge and understand a more holistic systems approach.

Clearly, research is required to provide guidance on the technical requirements of buildings and behavioral changes by occupants to adapt to realities of climate change. In contrast, the rapid advances in information and communications technologies, simulation tools, visualization techniques etc. are creating new “virtual” capabilities. Similar to the need for a greater understanding of the synergies between systems, the relationship between “real” and “virtual” environments will become increasing important in framing environmental research.

The notion of “collaboration” will increasingly guide building environmental research, and will occur in a variety of different forms—between the natural and social sciences, the technical and behavioral, between
different disciplines and between public- and private-sector organizations. Given the urgency of climate change and the current limited availability of research funds, it will be increasing necessary to find new more effective ways of undertaking research and disseminating the results. We will need to created new partnerships and networks to collaborate on more holistic research that spans the technical and social/behavioral aspects of environmental building that permit a greater level of sharing responsibilities and tasks. The notion of a network of research and coordination is seen as an emerging requirement for future building environmental research.
Technological Research
Workshop Report

Vivian Loftness, FAIA, Carnegie Mellon University (Lead)
Renee Cheng, AIA, University of Minnesota
James Bedrick, AIA, Webcor Builders
John Klockeman, AIA, Opus Architects and Engineers Inc.
Norman Strong, FAIA, The Miller/Hull Partnership LLP

RENEE CHENG: We identified some goals that we thought really in the end played a lot in “what are we trying to change.” Then we used technology to provide the bases on how to look at how these goals might be achieved. The goals are pretty shared. Then the other questions of what institutional transformations are needed and what research implications are addressed.

Along the way we brainstormed on more specific research projects. Just to get a sense of it, we were trying to see if suddenly there might be an actual project within the framework, and then cover the potholes that we thought were potential things that we should just be aware of. So what are we trying to change? What are the goals?

1. What are we trying to change?

Goals

Leap in (shared) quality of life
Environmental Sustainability
- Incremental or Radical
- Buy credits
- Regenerative
- Redefine Shelter (+HSW)

Redefine re-examine Architectural work in:
- Beyond Monumental Buildings.
  - Beyond Form and Geometry
- Arched + watersheds → materials
- Only through an integrated team

Architects to be integrators and translators
- What does universities need to teach?

Definition of Aesthetics/Elegance
Intellectual and aesthetic rigor in design beyond the cover

Leap in the shared quality of life is one. The second was environmental sustainability, which includes a long list of things. This point covered a lot of the materials, water, air, land, mobility, energy, waste, food, health. Throughout the session we talked about whether we were able to accomplish radical change or whether this was just all incremental change.

Clearly the sentiment was that the incremental change was too slow and we needed radical change. Were any of the improvements in the research projects that we were suggesting really just incremental change? Were we getting a little bit better or were any of them really aiming for the goal of radical change. I’m not sure we did it, but it was a goal that we had.
We just want to make sure the concept of radical change is out on the table. We were interested in a regenerative architecture: redefining shelter, redefining the role of housing through welfare and what architects need to do to address that. We were really interested in redefining the realm that architects had to work that were beyond the monumental buildings, beyond just form and geometry.

We did talk about things like working with watersheds, really integrating through all of the different materials and technologies that were available. We thought that architects could be both integrators and translators. What would that mean for the universities and the architects who had to play that role? There were some discussions about aesthetics, which tied into some of the things about metrics and whether the idea of elegance, which was raised in the second talk, and efficiency, and how that all related to the idea of aesthetics.

We also thought there had to be this intellectual and aesthetic rigor in design beyond just the facades. Again, it relates to some metrics that there’s been this kind of fascination with reward for buildings that just dealt with external aesthetics and that that really needed to change. How could technology be effective in achieving these goals? We divided it into two major categories.

One was materials assembly systems that would be integrated for performance outcomes. What would be the processes and tools that would be provided for performance intervention? Processes and tools is the second category. In the first group of material assemblies, we thought there was a lot of need but not enough research being done in this area that would really need an inventive approach.

We were also interested in the ties between the early vernacular work and 21st-century regionalism, and try to really get those two to begin to work together. In the regionalism area, we were talking about a lot of the climate-specific issues, which would eventually have passive survivability as a goal.

We talked about using eKnowledge, peer review, and positive university expertise that already exist that could be a wiki-type of thing that would take advantage of the intelligence of all of those architects from all of that work. Going back to the target, it’s just known that I’m not trying to reinvent the wheel. We were really interested in the terms of the materials assemblies of going to biomimicry and biophilia but not bio imagery.

The net zero building, including the communities, not just the buildings and the ecological footprint, was another major goal for the materials assembly area. Another area that hasn’t been really dealt with is the design for disassembly, which is really changed the industry in Europe, in terms of products release, i.e., that everything had to be possible to take back and reuse. Our cycle of how we tend to dispose of a building hasn’t really been addressed in the building industry here to any great depth.

In the processes and tools category, we focused mostly on technological tools. We also dealt with things that would teach you building technology that weren’t necessarily digital themselves. We talked a lot about how there’s always the possibility of using tools to envision things that weren’t possible to envision now. This was really a talk about more than incremental change. Certainly, this can tie with the practice, but that there were all kinds of
research that’s already been done about neurologically how you think differently if you’re using your mouse versus putting on a virtual reality helmet or moving your hand on a big screen and how all of those things really needed to be brought to bear to the design process and whether that could be really focused in this area.

There was discussion of the previous effect where buildings that could speak to you about your energies and with the users to help you become aware of what was going on in the building. If the buildings could prompt change by turning off part of the lights or if they could open their windows when needed, that would be a significant change. Would it be possible for designers to engage in a dialogue between the buildings and their users, as well as a dialogue between the users and the use of the building back to the designers and have that feedback be able to really work it through about how the building was being occupied?

There was really interest in the skeletal system. You would need to view the systems to give an award to the building. To evaluate the building, you would have to not only look at the rendering of the façade, but the wire, structural system, HVAC system, and plumbing system. If it looked like a mess or if it looked like it was inelegant, you would have some indication of the quality of the design. It is not just judging a building on the rendering or the image of the façade; that ties back to what we thought was not just tools for evaluation, but also the public perception.
So what institutional transformations are needed? We dealt with the AIA, and its partners, universities and the public. We thought the one thing that was really important is to redefine success. LEED is really only the first step. Yes, it’s simplistic but it’s also really easy to understand. The public realizes what gold or silver is and this is the beginning of what could be a much deeper set of criteria. These deeper criteria could involve the efficiency of the building, the simple tonnage of steel used, or the embodied energy or all of these kinds of things that could be measured and potentially rated, or somehow holistically looked at so you could say a building performs well or just maybe thermally it does really well.

LEED doesn’t do very well in terms of efficiency or the structure or any of these other deeper aspects mentioned. We need something that would be far deeper and more holistic. It would be something that we thought was not only the evaluation but the display of it. The analysis of it could somehow be self-explanatory or that we had some resource implications for.

If that was really going to happen, we would actually have to have agreed-upon metrics that would come from the AIA, ASHA, OSHA, AGC, GSA, EPA, DOE. We would need all of those acronyms names speaking but we stopped listening at a certain point. We also thought it was important, while you’re redefining success by these deeper metrics, that you reward success. Merit awards would not just be for buildings that looked great but would really start to begin to reward and put emphasis on buildings that had this much deeper criteria. That would potentially influence the media and start to get more public awareness of the larger goals of the architecture beyond just what it looked like.

Also addressed were collaborative models of practice, education, and research. Education was a major topic. In the education part, we thought the early design years were the most critical time where you could make students aware of the new criteria for success and that a
lot of it involved building technology. There were a lot of different models that we threw out on the table. Things like studios would have to be partnering with practitioners and officers. There was a model in which, when working with an office, you actually received a billable number. So when people teach, they get a certain number of hours they can distribute. They can use it themselves or they can get their colleagues engaged with you and all of that firm’s staff. That is going to take extra time on the part of the people working who were actually built into the commitment on the part of the office to support the schools.

There could be, just as there are research set-aside times, models where offices set aside dollars for offices, like up to 28 percent, or maybe it is just 10 percent. We could say that maybe offices would set aside certainly 1 percent of their income to support schools, either by giving its time or some other form like that. There had been attempts to institute a 10-year-out rule where you could not teach unless you had been practicing for 10 years. This could maybe be problematic in some areas of the country.

We also talked about how what we are potentially doing is getting a bunch of baby boomers educated in the 1980s and ‘90s to come back to school and teach what they learned in the ‘80s and ‘90s, which could be really bad. That was just something we addressed.

The other aspect we addressed goes down into the potholes that could occur. What would happen if you are introducing a lot of building technology earlier in the curriculum and it’s not well done? You need to have personal experience because it is difficult to do well. If you do not do it well, you actually could do some damage. You could create a generation of problem solvers rather than inventers. People would be coming out of schools who cannot think synthetically. The good news is that at least they would know how to do wall section. The bad news is they would only know how to do one kind of wall section or maybe two. That was something we acknowledged as a pothole.
Somehow we need to value local intelligence in every project so that environmental expertise and the culture of the building practice help you take in the place. That goes back to the question someone was talking about, the global economy and the local economy. We really thought it would be great if that was required on MArch projects. You would have to have true partnership collaboration with a local firm and it wouldn’t be just a firm that was not necessarily based in the area.

The resource implications pretty much tie into certain things we really thought needed to be invested in—things like models to highlight what was already working. It was brought up that when Arup first started, if you were a structural engineer, you actually needed to work in the mechanical engineering team for a while to be out of your element. That didn’t just sacrifice a person’s efficiency, it also allowed them to grow in a particular way. So as a long-term investment, it is saying you need more than people to be just plugging away.

That is one past successful model. There are a lot of models going on in education that people don’t seem to really know about. People know there are a lot of other good models out there, i.e., clearly, for instance, the development of metrics, especially if that’s going for those definite criteria we talked about earlier. This is going to need to have a fair amount of investment and you’re going to have to have all those resources for something that would allow for deeper criteria.

The scales of responsibility for the practice and mutual respect were also addressed. That was the idea of true collaboration that made this need to develop respect across disciplinary values. We tend to value our own expertise, but when we all come together, we tend to value our own expertise more than the others. While we can talk about them, and talk about them with each other, there is this idea that what I know is more important than what you know.
This is something that really needs to get down into the schools. It’s something that should start being practiced in the schools where the students actually start working with each other and developing a respect so that the designer understands the expertise the builder brings to the table and the builder understands the importance of what the designers bring. This needs to be more than just understanding, it is actually appreciating that other expertise.

There was that social aspect of appreciating each other and the approach throughout the training of interns. Then we talked about how when you are combining students who equally don’t know the same things, they don’t actually know that they don’t know. What they don’t know, you start to get, and they’re also not necessarily mature enough to work maturely as collaborators; then you have other issues coming in. So another model for this kind of or exposure to this collaboration has to be developed. Because we’re not trying to make the architects into structural engineers, nor are we saying here’s just a taste of it at the really basic level and that is enough. What you actually need to teach them is enough to be able to talk to a structural engineer and understand what the cutting edge is. It is a different thing than to get the little baby step of the construction engineering. Nor should we say you actually need to be able to understand other sophisticated possibilities. That could be done but they need consultants and to work with them, so that it is just like working within offices. Working with the contractors and the engineering firms so that you really bring into play regular collaboration is the desired future.
Organizational Research
Workshop Report

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STEPHAN CASTELLANOS:
Our group focused on organization and research. We started comparing ourselves to all the other professions out there, the doctors and lawyers. Why do we find ourselves in the situation where we have had this under-valued profession for a long time now, possibly for more than the past 25 to 30 years? Everything seems to be coming along now. For architecture, now is the time. We’ve never had a better opportunity to begin the reemergence of the profession, the problems that face society, and the problems we face in education and in training future architects for a number of different reasons, leadership being at the forefront.

We talked about climate change and the incredible issues surrounding that and the whole change that our business models, our practice models, must face. They are forcing us to think differently—and to think differently in a way that is no longer as much about the object of building as about performance; building performance; and, in a much greater way, the need for metrics, research, and data on actual evidence.

The client focus, the consumer focus, is also coming into the picture. Over the last 25 years or so, much more information is available to consumers in the marketplace. The push toward healthier, more sustainable communities and buildings—tying facilities to human performance—has resulted in research in those areas. We have talked about the work by others—that they are beginning to identify the impact that facilities have on performance and how this is more clearly understood by consumers. The first job, as part of the conversation, was to convey a tremendous sense of urgency that change is essential; the cycle is being more and more compressed. It was mentioned that if we don’t find ways of reinventing ourselves every four or five years, we will continue lose ground even more rapidly than we have over the last several decades.

We moved from that topic into the opportunity that we see with this year’s celebration of AIA150. We have spent a lot of time of looking back, focusing on the institutions that have
brought us to this point. A legacy that fundamentally changes our approach to the profession and practice of architecture still needs to emerge.

JAMES SUEHIRO: First of all, the question was organization of research. I don’t think that architects take their station well. The other aspect is that when we went through this exercise what we saw in the word organization. We thought, of course, about making the AIA a 21st-century organization.

Rethinking the state of being an architect—is it time to do that, based on these things? Knowledge is an enabler, and knowledge can allow us to provide the metrics to a new, reasonably enlightened clientele. In that way, we can use metrics to demonstrate, from the standpoint of the design profession, the value of our work. Then we can base our compensation on value. From compensation based on value, we have some success with that, and then we have the resources to reinvest into the research. It becomes a cyclical kind of a model, like we have discussed. So, the AIA as an organization today is an organization that serves its members.

What if the AIA became a partner with the profession in framing the questions from which the knowledge is developed? That needs to include everybody, not just talking to ourselves. If the AIA did that, then the AIA truly becomes not just an organization that serves but also a visionary partner.

This goes back again to the cycling of the development of knowledge—the knowledge becoming value, value increasing compensation, and then the compensation supporting more knowledge development. We need a couple of things to enable that. One thought was that we have AIA150 going on right now—the 150th anniversary of the AIA—and we have some programs. But what if AIA150 included, as a project, a format to rethink what
the AIA is—how the AIA is the community, and then how it relates and serves what vision as a partner of the profession? We thought about whether there could be a project such as a super-retreat: If we were starting today to design this organization fresh, what would it be? We thought that this process would need to include everyone who’s involved and engaged. It would be a super-retreat, using the term “super” because it would integrate all disciplines, all of the skills necessary, coming together to define the AIA of the 21st century. This is probably the single most important opportunity we have to protect the future of the profession.

STEPHAN CASTELLANOS: We are a knowledge-based profession. How do we capture the requisite knowledge to truly be capable of solving the problems we face in the profession and in the society? We thought that a movement toward specialization, if you will, that accelerates change in architecture practice, could also include partnership between the academy and practice. This has been mentioned at different points in the summit as well as advocacy at the federal level for more resources. We feel like there’s so much more available in terms of resources and there’s so much more that we need to ask in conferring with industry, as well as the federal government and the cabinet, to move design and structures to higher levels.

The classic idea is that before knowledge comes to you, you need a growth economy, and this depends on relationships being free of concern. The whole notion of an expanding audience, integrated with the industry and across the academy, plus having the critical primary strategy to be able to move us forward is critical.

Discussion

EDWARD J. VIDLAK, AIA: What does that means to research, and how does AIA become an equal visionary partner of the profession? The AIA wants to celebrate global research and researchers—for example, its collaboration with ARCC. You’ve got to make sure that our members know where the findings are in the country.

At the same time, acknowledging members and member firms that are involved in that research is a recruiting tool, not just for schools but also for those firms. It’s something that we all benefit from. We begin to let our membership know that research is important. It’s an important part of the culture.

STEPHAN CASTELLANOS: There is a need for the next monitor, a reinforcing of the idea of research that’s going on firms. We talked about NBBJ and what that they’re doing in other firms across the country, and we talked about another firm that focuses on nothing but being a research firm.

I think that a lot of times, we just lurch toward the end and try to solve the problems of climate change. The actual events that probably get measured are in building performance. So, what does that to do in terms of our practice? We have to approach performance with the type of methods, the knowledge, and the research to support our decision making in a way that we haven’t had to do before. There was some discussion about the culture of sharing, identifying where research occurs, or where industry is working with the academy. Then, to be able to develop the evidence, and the knowledge, is going to drive the engine of our practices in the future.
MICHEL MOUNAYAR: I just want to tell you that, actually, we have liaison with the AIA CES system. We are absolutely interested in that. And many, many firms—Timberlake, in Philadelphia, for example—have been pushing forward in terms of that. With the several sessions that we had at ACSA, there was exactly this focus in terms of practicing in research. I also believe that the AIA has a unique position in terms of the overall population and certainly from the point of view of policy makers in the city that could be very effective, and I’m really happy to see that. There also needs to be effective pushing at a national scale.

STEPHAN CASTELLANOS: I forgot to mention that the change in our organization is that a lot of institutes and professional organizations like ours are now finding themselves in the same difficulty. A thing of note is our willingness to try things. I think about the notion of incubators—those sub organizations that were beginning to make different type of issues or different models to better address the needs of emerging professionals and emerging issues. In California, we’ve been working on this practice for some time.

We’ve got all this focus involved in this effort for this issue, and it doesn’t reside in any one location; it’s shared. Are we willing to create another organization that we support and see as an incubator? There were a lot of different models out there—the AIA may be one. There may be change, or we could attach different efforts that we support. Thinking differently, I think, is what we are going to have to do in terms of where we place ourselves as a profession in the delivery setup as citizens, as leaders in society.

JAMES SUEHIRO: There are schools, institutions that are well-known and great in research. The AIA has a number of researchers, but we also need to remember that the firms are resources to the AIA. You can make a parallel to the firms doing research and universities doing research. If we have information, we need to get that out there for everybody because not everyone is going to be hospitable about marching out ahead. There are a lot of people and firms that want to move carefully.

And that’s a good thing because that’s the balance. If you don’t get the information out there, you don’t get the firms sharing information, sharing the research out there, and then none of this is going to work. So, it’s this whole partnership and, I guess, we’ve talked about why not have the AIA being for that? Why not?

MICHAEL R. BROSHAR, FAIA: Thank you. This is a good opportunity for me to bring out something that the AIA is doing this year that begins to connect some of these dots. This summer, we will be introducing a Web-based tool for information sharing. The working title is eKnowledge, but that’s not what it will be called. We are hoping to make connections, initially, with five universities. We want to grow that, so that we can identify research and share that with members.

We’re also making connections with firms, so that firms and individual architects can load information onto their sites. So, it begins to identify the body of knowledge that exists and becomes a sharing mechanism, and we hope it becomes a robust tool for sharing knowledge, research across practice and across the academy. Look for that. We hope that it’s going to be very successful.
Design Research
Workshop Report

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Mardelle McCuskey Shepley, DArch, AIA Texas A & M University
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MIKE MARTIN: Our discussions were very broad and wide, but I think there are some things that came out of our discussion that are important to share with you.

We started with the intention of actually following the format about design that is connected with research. Is design a form of research or is research a framework for informing design? What is it we need if we are at a research design complex entity and we’re concerned about creating new knowledge? What does it really mean to create new knowledge? We tried framing this in a form of language that might make sense. So we articulated four or five kinds of things that we thought were really important. Things that, if we are going to talk about creating new knowledge, we have to really begin to think about in relationship to design.

The first is that we really need to know what you will be able to decide whatever you’re doing in the context of that kind of condition. If you want the traditional model, that is something to consider. That might be design to research or something like that. Well, you do want to say it that way. But, it is about decision in the work in context so you know what you’re asking to put into.

Second, that there actually is a transparency of the method and the questions that you are asking so that it can be reproduced at some point by someone else with the purpose of further verification but, more important, so it could be understood and use it as a way of informing design.

Third was this issue about stamina. Doing research is not a onetime kind of shot and, certainly, there has to be a commitment on the part of where the researcher is in conducting research, whether it’s a practice in the academy or some other practice model, to continue to focus the resources on the question over time so that you can really get a clear idea of what is the knowledge that you’re actually creating.

Finally there’s this issue about how you evaluate the design and the outcome that’s there. So it takes on the form of “review your evaluation.” One of the cultures that we have to actually create is the kind of culture where research is an extra kind of discipline or profession.

What is the real research? What are burning issues in here? What is the relationship with what needs to be addressed? Is it the one that basically creates a mechanism that creates strategy and tackles with capturing and disseminating existing and new knowledge in evidence, both to practice, clients and to the public? That is, does it find strategies and tactics for capturing and sharing existing and new knowledge or evidence to practice, clients, and the public? It is really about this network by which we have been creating, which is not a lot unless we build something and have the mechanism to actually disseminate that information. In fact design research can actually be utilized and understood in the larger context.
The next piece was really promoting and finding ways to promote the notion that design is knowledge-driven. That takes on the whole issue of base design, i.e., to promote knowledge as the basis of design.

The third piece was finding ways to try to eliminate the barriers that exist in the relationship, the kind of research and its connection to design. We had a long conversation about the role of research and creative production and the differences between the two and how that was somehow to fit into this larger framework. It is one of the dilemmas that all academic institutions have and is also true with practice as well.

How do you actually encourage the kind of creative production as a major informer of what you do, but do it in such a way that it takes these characteristics of being transparent, reproducible with all those kinds of pieces. So those are the three major agenda pieces that we had addressed.

Then there is the transformation piece. One of the things that we thought was really critical when you look at the kind of connection between the academy and practice is that it needs to be more focused on better reformatting the curriculum in schools. It was the sense that most of what we do in schools is either not about practice at all or it's about practice as it was, not about what it is and what it’s going to be. There is a real need to really think of the nature of what occurs in practice in terms of this question about design and research.

The outcome from both creative production and research, but in a different kind of format, is the particular exploration of the kind of creative production piece and the relationship to research. What we really find is a way to honor and acknowledge all of the forms suggested through publications, actual reports, programs, et cetera.

Then there are the limitations that the whole orientation process brings to research. We realize that somehow there has to be a much greater focus on knowledge, i.e., what schools do in terms of preparing individuals to move into the discipline and to perfection of our discipline. We need to find ways to find a much more integrative and multidisciplinary kind of context for a verdict.

This came out in the discussion about how most schools are structured today, whether it’s this big structure or the central studio that is intensive and takes a big chunk of the total curriculum and time span. Then there are all these other courses that get independent and, only by chance, actually get brought to the studio. That is usually because whoever’s doing the studio has an interest in that subject.
In a way this creates a real problem—this larger notion of an armature around which all of the other companies have been talking about research for us. This is really critical to bring into the discussion if design is going to be a research agenda. There really needs to be a way to endow or to fund the research component in universities.

We can have fellowships or research students, master's students, or PhD students who would actually be focused on collaborative research agendas or specific kinds of questions. Every one of them, 25 plus kind of doctorate programs around the country, all suffer from this research problem. The problem is one of research and the relationship of doing it at work. We really need to find a dissemination mechanism. We realize this is in progress but if you look at architecture, specifically, as a discipline, there's only one nationwide publication.

We all know what the publication is. Some of us read it and some of us don't because it actually does not necessarily address things that are for our community relationship to the discipline. So the magazine is somewhat connected with this notion of a shared portal. We can really get across the barrier of the academy and practice the moment we have a portal where there is this dissemination process that actually feeds both into the academy and into the profession.

There's the issue about the funding research of practice. It's coming up in various conversations. We are talking about something that the AIA can actually do, and this is talked about in other forms. It is actually the advocacy kind of connection and has the leverage to really be a voice to federal agencies and other foundations about the importance of research and how architecture contributes to this larger integrative, multidisciplinary kind of agenda.

We may not have the capacity to have a significant impact but if a dialogue is carried on in a multidisciplinary type of focus, there is likely to be more capacity. Not all schools, nor all practices, actually need to be structured in this way. This is an acknowledgement that certain schools are going to be much more focused in a research agenda and certain practices as well are focused in that kind of way.

The final two things have to do with really looking at unique models. There is this notion to look at the sequence in the project dealing with development of technology in a research setting that wraps together different disciplines such as engineers and medical expertise. As soon as they have the technology for it to develop, they start out with the third part in the sense of actually taking the technology and starting to make it applicable, so that you actually can use a treatment of certain kinds of conditions.

The same thing actually applies here; that we actually really need to think about how we can create this kind of third player, if you will, the third party, that can actually be the kind of instigator of the research organization.

Can you somehow leverage your catalog, whatever that means, to think about those types of models that actually need to be done in relationship with the research effort that is in existence? That is another quick model.