

## WHAT IS ACADIA'S FUTURE?

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It is no small feat for any organization to claim twenty five years of existence. That alone testifies to ACADIA's important role in the digital evolution, from its dawn in the early eighties to the present "interesting" times in which we may see in the coming years some fundamental changes stemming from the use of digital technologies in the building industry (more about that later).

Five years ago, at ACADIA's twentieth anniversary, I was similarly asked to contribute my view as to where ACADIA stood and how it should evolve in the coming years. At that time I wrote that the digital design media had definitely passed the threshold of acceptance, both in academia and practice. Today, in most schools in the US and Canada, networked portable computers and inkjet printers and plotters replace the straightedges, and pens (at least in the last two years of professional design education); one would be hard-pressed to find today a practice that does not rely on the digital means of representation and production. On a larger scale, access to the Internet is ubiquitous – entire cities will soon have

blanket wireless coverage providing access to the Net literally everywhere. In other words, the changes have been both deep and wide.

We, in academia, have found ourselves in a curious position over the past decade or so. It used to be that the cutting-edge research was predominantly done in the university research centers and labs. Today, it is the design firms, both large and small, both well-known and emerging, where the cutting-edge work is taking place. In other words, academia finds itself lagging behind practice, both in everyday and the cutting-edge use of digital technologies.

For all the talk about the Building Information Modeling (BIM), there is little discussion as to how this fundamental process change in the building industry could affect how we teach design. Some of our colleagues are responding by denial, by pointing out that our brief is to teach students how to *make space* and not how to *make buildings*; on the other hand, that are some who argue that *making* (in the material sense) is intrinsic and fundamental to architectural design. I subscribe to the views of the second group and believe that

our brief is to teach both the making of spaces and the making of buildings.

We are beginning to see efforts in some schools to return architecture to its medieval roots, that is, to the art and craft of making buildings. This push towards making is not necessarily tied to a broader and deeper acceptance of the digital technologies; many schools have experimented and are experimenting with *design-build* studios, providing students with the hands-on experience of construction (however limited), with a literal but pedagogically invaluable connection between representation (i.e. the lines on paper or screen) and material production in an educational context. In my view, particular value of this approach to architectural pedagogy lies not in acquiring some construction experience, but in understanding design as the *art and craft of making*. In such context, digital technologies matter because they provide a direct connection between what can be represented and what can be built – they bring us closer to the craft of making through direct exchange and application of design information in production (and vice versa) using the technologies of digital fabrication.

Another looming change on the horizon is the wider use of performance simulation software. We can now not only visualize accurately the interaction of light with surfaces, i.e. see what the spaces we are designing would actually look (and feel) like, but we can also visualize how they will perform, acoustically, structurally, and environmentally. If we are to compare the current state-of-the-art in building performance analysis and simulation software to the evolution of rendering software, we are now in the eighties: yes,

it is possible to do today the equivalent of ray-tracing and radiosity (i.e. perform structural analysis or a computational fluid dynamics simulation of air flows in designed spaces), but the process is time consuming and computationally intensive, the software is difficult to use and cumbersome, and it demands a considerable domain knowledge. If one tries to fast-forward to 2016 and imagines an easy-to-use piece of software for comprehensive analyses of building performance, one can see another fundamental shift emerging as to how we look at architectural design, one defined by geometry but informed by its intended performances and the processes of production, of manufacturing and assembly.

I think ACADIA should respond to these looming changes by organizing tightly focused conferences (much like the “Fabrication” conference two years ago in Canada) that would examine these emerging themes in detail, by showcasing best practices and cutting-edge research in practice and academia, and by organizing round-table discussion where implications could be pondered. While such focused conferences would not necessarily accommodate the interest of some members, they could continue to keep ACADIA conferences and other activities in the spotlight, as a place that is at a cutting edge of the latest developments related to digital technologies. Focused conferences could also attract new people to ACADIA, some of whom could become members. At the time of declining membership figures, such tactics should be carefully scrutinized.

Regarding ACADIA’s membership figures, if I am not mistaken, they have shrunk by more than a third over the

past decade or so. While this does not necessarily indicate a full-blown crisis, it does merit an examination of the possible causes (so that a possible full-blown crisis could be avoided in the not-so-distant future). There are many reasons why the numbers are declining: some long-time members have retired, some may have lost interest in the association, some didn't find kindred spirits as expected at the conferences, some didn't see much value in continuing the membership, and some may have seen the Association as a "dinosaur," as a group of people with a mindset that belongs to some past times, when "computer-aided design" was still a fairly esoteric undertaking (and considered as futile at best by the architectural mainstream).

Some could even say that ACADIA has an "image" problem, and I would agree with them. To some ACADIANS, such a statement may sound utterly superficial, but I do think that we ought to examine what we project as the Association's image to the outside world.

I would start with the Association's full name: *Association for Computer-Aided Design in Architecture*, and would dare to propose that we change the Association's name to better reflect its yet-to-be-updated mission statement and yet-to-be-articulated goals. I don't intend to offer in this article what that mission and what those goals should be – that's for a carefully chosen group (the Steering Committee?) to discuss and put forward before the membership. If some think that is unnecessary, I would like to ask the following questions: How many do still use Computer-Aided Design or its acronym, CAD, in academic or professional discourse? How many do think it is

outdated?

If my memory serves me well, I think it was Bill Mitchell who wrote more than a decade ago an article titled "What was computer-aided design," in which he compared the term "computer-aided design" to the "horseless carriage" from the early days of the automobile. In other words, the term has become pointless. And I think it was John Fraser (another pioneer) who asked what it was in design that needed "aiding" in the first place.

I can't think of any school of architecture today in the US and Canada that still has courses which have "computer-aided design" in the course titles. Most schools now teach courses in *digital design media*. Few have decided to assume digital literacy among students as a given, i.e. they make little effort to teach specific media techniques and instead have absorbed the digital into the conventional design and visual communication curricula (and other courses).

So if no one talks (or wants to talk) about computer-aided design today, perhaps ACADIA *must* consider changing its name. That, I think is far from being a superficial act, because it would require an act of introspection; ACADIA would have to spell out what it is about in the changed world of digitally-empowered design, analysis, production, and operation of buildings.

I would argue that this issue of identity is the fundamental challenge for ACADIA in the next few years if it is to thrive (or even survive). What should ACADIA be about *today*? What is its role in the changed world some 25 years after its birth? How should it justify its continuing existence?