Acadia’s Past and Future

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In his paper for the celebration of the 20th anniversary of Acadia, Chuck Eastman reminded us that the name initially proposed was ACADIAS, standing for Association for Computer Aided Design in Architectural Schools. After further consideration in that first founding meeting, the “s” at the end was dropped, from what I remember for two reasons: The first was to make it an association of “individuals” rather than “schools.” The second and most important, to keep the organization open to professionals, rather than make it exclusive to academics.

True enough, over the years, Acadia has agonized over how to attract professionals, how to interface with professionals and their organizations, how to keep itself relevant to the directions of the profession, etc. While I do not have any current statistics, over the years, Acadia enjoyed a “minority” of professionals and seems to be doing a lot better in recent years in collaborating with professional organizations. This relationship with the profession and the type of software professionals wish to use appear to once again be of major importance, as we consider Acadia’s future.

In the area of computer aided design, in the past, it was the academia that pioneered many new techniques and above all the recognition that the computer is destined to play a crucial role in the future of architectural design. It was also the academia that for many years struggled to persuade the professionals about the validity of CAD and then trained a few new generations of young designers, while in school, who went out to the profession and, even though they were rarely able to teach their established bosses, they were able to persuade them about the effectiveness of the new digital tools.

Now that the “doubters” are a very small minority, it is interesting to observe who the driving force is behind the evolution of the CAD tools in the past and today.

While in earlier days the evolution of CAD was driven primarily by academia, the situation seems to have been reversed. Today, it is the profession that dictates...
what it needs and puts pressure on the software developers to deliver it. Yet, the academia seems to continue to explore innovative venues. To put it in plain terms, it is the young generations of designers, frequently guided by demanding studio critics, who use commercial software in ways that go beyond the intentions of the software.

Today we seem to have an interesting split in software personalities. On the one hand is the BIM type of software with all its implications, which the schools continue to dislike and which the professionals tend to view as a savior and anxiously await its maturity. On the other hand is the interest in software that enhances design explorations and facilitates the discovery of new forms that some believe are manifestations of a maturing artificial design creativity. The paradox about this latter trend is that it is largely exploiting software whose creators did not even suspect the uses to which their software would be put. In other words, there is hardly any software yet that was written specifically to support design explorations that go beyond what is possible with conventional means. This would be software intended to explicitly support artificial design creativity.

In some ways BIM has become the drafting of earlier days. Drafting can only be applied to draw a known design solution, something that does not need any more intellectual searching and exploring (which would be design). So does BIM, which is based on parametrics, which can only be applied to known entities and solutions. In other words, the current manifestation of BIM leads to “franchise” architecture and restricts design innovation. Yet, it is valuable to the professionals, since it saves them a lot of effort and improves the construction, even the whole lifecycle of (more or less conventional) buildings. But it can not support the kind of architecture that invents new forms and aims at enriching our culture, in addition to offering shelter.

This paradox is then the next challenge that CAD has to address: How the BIM techniques and philosophy can merge and support the design exploration and solutions that enrich our environment, lives, and culture. It will take an effort far beyond that of the software developers to achieve this and this is where organizations such as ACADIA can once again become relevant and major contributors.

ACADIA has never been a research organization by itself, but has always offered a forum for primarily academic researchers to report their work and to interact with those that were interested in trying some of the new ideas and methods. ACADIA’s membership has always included tool builders and tool users and there was never antagonism between these two interests. On the contrary, there has always been a smooth interface, which has repeatedly proven that tool users are sometimes the best tool designers. This is the role that ACADIA should continue to play and not only embrace, but also instigate such collaboration.

Some believe that CAD research is done. There is no more to investigate. Little could be farther from the truth. There is more ground for CAD research today than ever before. Once again, architects and architectural schools need to get involved and ACADIA should facilitate this involvement. If this does not happen, the field will be driven by other disciplines.
The good news is that progress is unfolding and is even accelerating. In another recent presentation, I remembered Ray Kurzweil’s book, “The Singularity Is Near” and pointed out that design creativity is very much part of the expected “explosion” that the author is predicting. In plain terms, singularity is the moment when an arithmetic progression switches to a geometric, which represents an explosive rate of growth. Computer power is approaching such an explosive growth and so does artificial intelligence (AI) that comes with it. So does artificial design creativity, which is a not too distant cousin of AI. Some observe that the rate at which innovative architectural forms are been invented and even built currently increases on a daily basis. This has to be a sign of the arriving singularity; it needs organizations like ACADIA to help drive it in desirable directions.