

In 1881, the architect and scholar Leopold Eidlitz wrote that to prepare for

professional life, the student of architecture must "master the mathematical and scientific branches taught in modern polytechnic schools, make himself proficient in drawing, attend an academy of architecture, and then become, in succession, a good carpenter, mason, stonecutter, painter, sculptor, and decorator." But as human life is too short for all this, Eidlitz concluded, one must reduce the question: "Shall the pupil of architecture be educated in some mechanical workshop, in an art studio, or a polytechnical school?"

Given that this debate has dogged architecture education for more than 100 years, we asked **Marc J. Neveu**, associate professor at Wentworth Institute of Technology, to delve into it with two thoughtful leaders of the profession: **David Hacin** and **Nader Tehrani**. Neveu interviewed them late last year.

OPPOSITE

A bookcase staircase, created for a private residence by Levitate, a London-based architecture and design studio. Courtesy Levitate. levitate.uk.com.

Marc Neveu: Considering what Eidlitz had to say in 1881, what is the responsibility of an architecture department today to prepare students for professional practice?

Nader Tehrani: What's remarkable is all the other things that quote overlooks that we consider indispensable to the study of architecture today—history, anthropology, sociology, among other things. But to some degree it also asks the question: Does expanding the terrain of architecture to be inclusive of everything automatically equip a student to become a good architect? Or is the best architect the one who is able to interpret and edit the world in strategic, deliberate, and incisive ways?

David Hacin: Determining what it takes to be a good and a successful architect can be linked to other aspects of that question, about the business of architecture, working with clients, and convincing people of your ideas—skills that are absolutely critical to being able to make manifest the ideas that are born out of this broadened exposure to history, anthropology, and sociology.

Marc Neveu: But if we expand the field, what's left to define it? Aren't there certain skill sets, modes of knowledge, and histories that are specific to architecture and must be taught in the professional model of education?

David Hacin: Absolutely. Architectural education is rooted in design skills and being able to represent those skills and develop ideas through the making of form. The question is less about whether this is an essential characteristic of study than what else is needed in architectural education to support that goal. The criticism is that some programs are either almost exclusively design-oriented or primarily technical. So what's needed to make architectural education a generally broader topic?

Nader Tehrani: In that period [1881], there were two strands of architecture schools that emerged, one from the Polytechnic and the other from the Beaux-Arts. They had very different emphases. With Modernity and the end of World War II, there was also the advent

of specialization, where the architect began to lose his or her control over the related fields of architectural disciplines. Today teams are composed of not only an architect but also 15 to 20 specialized consultants. This has effectively changed not only how we practice but also how we get there in the first place.

The nature of schools took huge twists and turns over the same period, not only expanding the curriculum in certain technical or historical courses but also in absorbing the role of theory as a central part of discourse—as in the '70s and '80s when linguistics, structuralism, and philosophy took on a greater role in forming architectural thinking. How is all of that really relevant to what we do when we're drafting up a house in the suburbs? I'm not always sure. But it's arguable that we must be conversant with the other issues, above and beyond formal-technical ones, that are culturally relevant.

Marc Neveu: Today, we do have an incredible amount of specialization. Architects specialize in healthcare design, or stadiums, or other building types. Do you think that students should specialize?

David Hacin: No, but they should be aware of what is out there and how significant the choices they make early on will be in terms of charting their career path. Schools aren't adequately preparing students by giving them a real understanding of the current professional landscape. And in a global arena, the professional options available to someone in Massachusetts are very different than those available to someone in Malaysia.

Nader Tehrani: You have to use education as a way of building up thinking skills, interpretive skills, creative skills. Those skills become, in a way, calisthenics for all the things that we do not know are going to happen five years from now. How do you develop curricula that are conversant with the things students actually need to learn for today, while opening up channels for all of the things we can't even imagine yet, which will replace what becomes obsolete in a few years?

David Hacin: Theoretically, the goal of the US undergraduate system is teaching students how to think. Then, when you move on to a professional school—whether it be law or medicine or architecture—you are learning how to practice very specifically.

[After graduate school], you end up having learned how to think, and maybe even refining your design abilities, but you haven't really developed enough practical understanding or professional expertise to hit the ground running. This is a particular concern to me now because there are other factors at play—the cost of architectural education, for one. Young architects are graduating with insurmountable debt. And they're moving into a profession where the financial rewards are limited. Unless we want architecture to remain a profession for the well heeled, we're setting people up for failure in some cases.

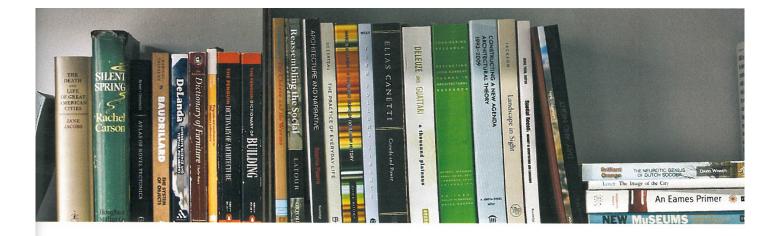
I hate to be so mercenary, but what is the value proposition here? I'm hearing that game design, for example, is sucking up a tremendous number of the most talented design students because they see a financial horizon there that they don't see in architecture.

So much has changed. Do you think that a student who was attracted to the architecture profession 25 years ago is the same student who's attracted today?

Nader Tehrani: It's a different person, because culture has changed significantly. At the same time, it is a tall task to ask any student why they are, at the age of 18, choosing any profession. To some degree, as young applicants, we all mythified what "architecture" was, and we were innocent of the actual conditions of practice. But operating within those myths is part of the charm of growing up.

David Hacin: I was different because I thought I knew exactly what I wanted to do and how I wanted to do it. My father was an architect, and I wanted to have a practice like his; but that form of practice doesn't really exist anymore. One is forced to adapt one's expectations.





I ask students who interview with me what they would like their architectural career to look like. Almost without exception, they talk about having their own practice; that's their dream. And I have to believe that their motivation for studying is built around that reality—or perhaps mythology.

Marc Neveu: The Fountainhead-ache.

David Hacin: The image of the master operating in his own practice.... Yet the schools do very little to prepare students for what that means. There is increased specialization, midsized firms are being squeezed out, small firms have trouble staying on the cutting edge of rapidly changing technology. [If I were] a student, I would like to know about these issues, not necessarily in depth, but enough to be able to make informed career choices.

Marc Neveu: The role of research in architecture has shifted quite dramatically. There is no longer only the model of the humanities, leading to a PhD. You have efforts like the [Harvard GSD] Koolhaas Project on the City, where there's a lot of information gathering but it's a design-based thing. Then you have the [MIT] Media Lab, where there's a kind of interdisciplinary, project-based approach. Could research promote a new form of practice?

David Hacin: Absolutely. Researching innovation as a form of practice is very compelling, and it's certainly going to advance the profession. However, let's remember that the vast majority of architecture students are moving into conventional practices that are not research based and that do not dedicate what limited profits and funds they have to research. The architecture profession has got to figure out a way to both support and promote the research and innovation that is going to make practice more relevant in a 21st-century world, and still make sure that we are advancing more normative practice models—making them more relevant to the economic model of our country, which is not particularly supportive of research and innovation-based methods.

Nader Tehrani: You've outlined several models of research, but I also consider certain very conventional things that we always and already do to be research. Drawing, for example, is research for me; drawing a project on the oblique, from the outside and inside is a way to research how the building turns its corners. Only an architect can come to appreciate the discrete resonance of this task as a piece of research.

Research is also instrumental. It is an alibi for what we do, the ammunition. Students need to be equipped with all levels of understanding how we interpret research, because the conventional architect will need to stand up to the contractor, a project manager, or a city agency and be able to present narratives that are relevant for all of them, and in a convincing manner. For instance, researching the means and methods of fabrication in a proactive way is more important than ever for a designer today; it is the only way to construct a meaningful dialogue with both fabricators and value engineers on the one hand but also a way to defend design in the process.

David Hacin: In this conversation we've talked a lot about critical thinking in architectural schools. But we haven't talked very much about implementing critical thinking more broadly.

My concern is that we are moving toward having architecture students who are less and less reflective of the broader society that we live in, both economically and demographically. The criticism that's been often laid at the doorstep of the academy is that it's an ivory tower of folks who can afford to indulge themselves in thinking about things that have limited relevance to the majority of citizens. If we don't expand the base of students who are coming into our profession to reflect the shifts that are occurring in our country, I think the architectural profession has the potential to become the GOP of the next decade—more and more detached from the rest of society. This is where I come back to the issue of how we compare with the medical or legal professions.

Marc Neveu: The one major difference is that if you're

ABOVE AND OPPOSITE

A bookshelf in the North End home of architects Diana Tomova (KVA) and Parke MacDowell (NADAAA). Photo: Parke MacDowell. a law associate, you need to have passed the bar. If you don't pass the bar, you don't work. Architecture does not have the same requirement. Further, to get a building built, you do not need an architect. We've driven ourselves out of the equation.

David Hacin: We let that happen, and we continue to let it happen. We don't really seem to have any great interest in correcting it, either.

Nader Tehrani: Arguably architectural education is the only education out there that is based on a "crit" format; we do more teaching and learning by debating, interpreting, and critiquing. It's almost like the legal profession. You may know that your client is guilty, but you're going to present the case of why they're not. Presenting a design is almost always like that. Because you know that there's no foolproof reason why anything has to be the way it is, and yet you have to present to the client, the community, the engineer, a narrative that is convincing.

David Hacin: So then why do we do make our case so badly as a profession?

Nader Tehrani: When you and I went to school, the architectural profession was comparatively narrow. Now, architecture and design is everywhere because of the Internet. It's arguable that design is at its peak in terms of relevance. The accessibility of architectural images and content is ever-present, for young designers and clients alike, making design more popular than ever before. In turn, this has made it even harder to raise the stakes of good design, critical thinking, and discerning judgment.

David Hacin: Design is so available that there is no longer that sense of having to explore an idea, get to an idea—the work that goes behind making a building. Everyone is so attached to image now, that creating the image of the building is all they think we do, when in fact there's so much more that we do and so much more that we understand.

Nader Tehrani: And you want to be able to explain to the client the integral relationship between the mechanical, structural, and spatial relationship of a building as if it were relevant? We care about that, but nobody wants to listen to that.

David Hacin: No, but this helps explain the importance of

licensure and the responsibility that schools have to promote it. To a client, a license means that you should know how to do all of that. It's shorthand, and it has real value.

I think we need to give our students the tools to be effective. First of all, not everyone is as talented as the next person. I'm not sure you can teach design talent. That doesn't mean that architecture students who maybe are not the best designers can't have a lot of impact on the profession or have a lot of success in other ways. But is architectural education too focused on the brilliant designers and making sure they achieve success?

Nader Tehrani: The architectural license is practical to have, but it says very little about the relevance of building meaningful bridges between education and practice. I have tried very hard to serve as a model for this very issue. If there's a pattern I've been able to identify after my 20 years of teaching, it's that out of an average-sized studio of 12 people, I've rarely been able to impact the so-called one or two brilliant designers in the studio, and I probably could not have much of an impact on the one or two people on the bottom who had very little initiative or ability to see visually. But education has nothing to do with talent; it has to do with the other eight, nine people, to whom you do teach design skills.

You do teach instruments. You do teach agency.

Marc Neveu: One final question: After being out of school for several years, what do you wish you had learned in architecture school that you did not?

David Hacin: I wish I had learned how much I would have to rely on others in both building buildings and building a practice. My architectural education was very rewarding, but it was a very solitary experience. Being out in the world and having a practice, it's anything but. I hardly ever have time to be alone in my own head with anything. I wish I had understood that a little bit better, not because I would have done anything differently, but because I would have been better prepared.

Nader Tehrani: What I lacked was a program that could demonstrate that everything is design, beyond design: The mechanical and structural systems, which seem to be accessory courses but in fact are the only thing I'm focused on today. Budget, structural engineering, and environmental systems are the three creative areas of design that are commonly overlooked in the context of school but become absolutely dead center when you're doing anything.