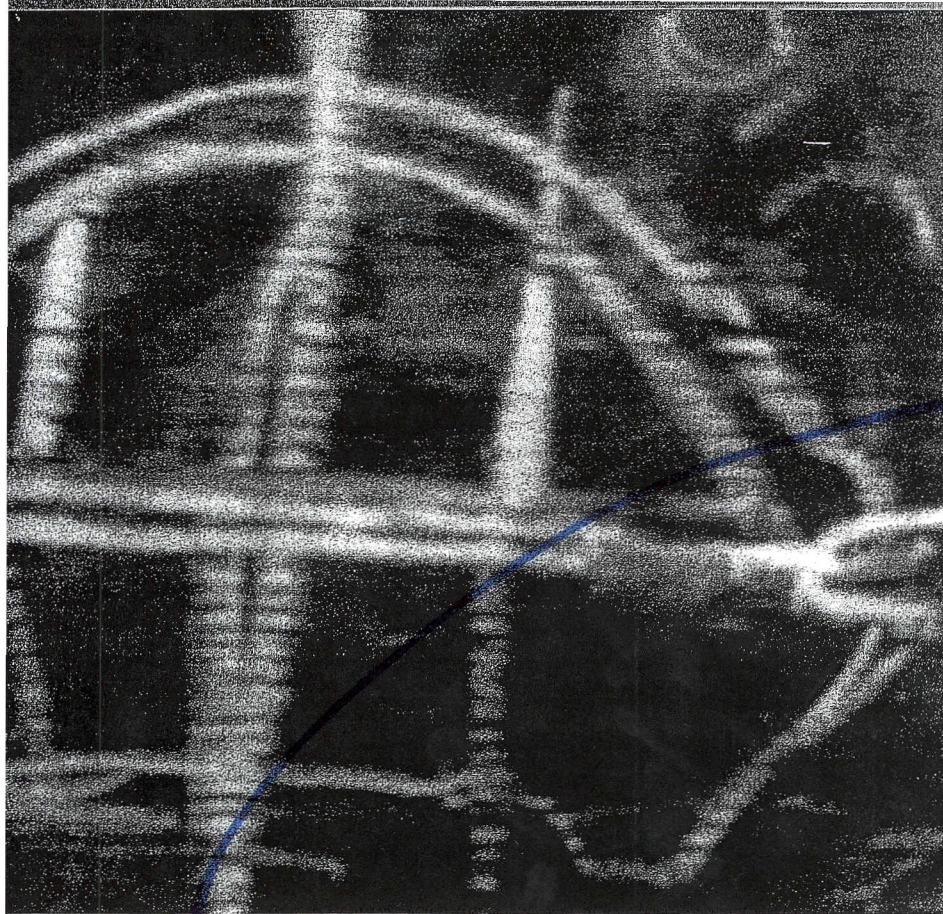


Architecture students from Lehigh University and youngsters from the after-school program Archi-Kids collaborate on the design and construction of imagistic hallways for a special exhibition at the Smart Discovery Center in Bethlehem, Pennsylvania. Opposite page, near right, a student in the Archi-Kids program works on a new urban scheme for Bethlehem; far right, other students in the program make a video of the neighborhood for further study.



Lessons to build on

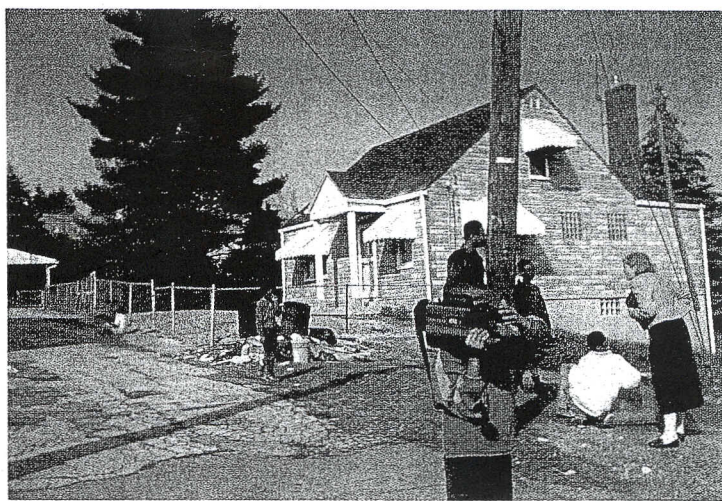
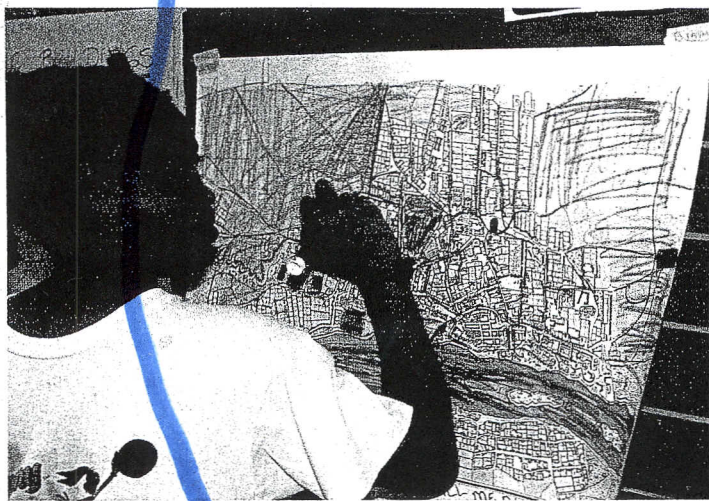
Two architects turned educators are connecting with hard-to-reach kids while spanning the gap between architecture and society.



How is the teaching of design/architecture changing to meet the new age we're entering, specifically, one increasingly defined by electronic media, an environmental crisis, and a lost understanding of how to create vital communities?

"Sad to say, it is not changing," laments architect/teacher Jim Morgan. "The Beaux Arts focus on appearance, never entirely superseded by the Bauhaus's (largely implicit) attention to social concerns, has fully returned; formalism dominates design/architecture studio programs. Most design educators couldn't care less about 'the new age we're entering,' except in its superficial stylistic manifestations."

"If we consider design education to be an instrument of social planning and a means of establishing a culture of values in a society, then such broad issues as how to create a vital community really comes under its purview," observes graphic designer Milton Glaser. "Most schools do not think about design in this way. Perhaps they should. But who are the professors and teachers capable of such investigation? It is easy to rename the ►119



BY ELIZABETH HANLY In 1990, Diane LaBelle was living and working in Pittsburgh. A friend of hers, a teacher at an alternative facility for children with behavioral problems at school, had come up with an idea: If the kids designed things, built them, then wrote about them, they'd probably have a lot more interest in learning. He asked LaBelle if she'd like to come aboard. The project was so successful that when Pittsburgh public school officials wanted to set up a similar program a year later for at-risk inner-city elementary school kids, they turned to LaBelle to design it.

She set the program up in three phases, each lasting a semester in after-school and weekend classes: first, the building of a model city; next, the construction of a topographical map of their own city; and finally, an exploration of the history of their neighborhood via interviews with long-time residents. "All of a sudden," she says, "they belonged, and the streets that these kids used to sleepwalk

through came alive [for them]." They started to recognize buildings and styles, and to understand structure. "These were kids who had never been asked an opinion about anything," continues LaBelle, "and now they were being asked not only for an opinion, but to create model cities based on those opinions."

At the program's inception, she was warned by teachers about one young boy in particular. "He's simply not going to show up," LaBelle was told. "This was a kid who ended up waiting for me at the school every morning at 7:00 a.m.," she says. In fact, not a single child dropped out of the program.

"Architecture seems to work for kids," LaBelle explains. "It makes abstract concepts concrete for them. You can talk about tension and compression until you're blue in the face, but if you take kids out and show them a suspension bridge, all of a sudden they understand. And once they have a concept, they build on it with unbelievable speed."

LaBelle was not the first building professional to realize all this. Her role model was celebrated engineer Mario Salvadori, founder of New York's Salvadori Educational Center on the Built Environment. She had once heard him speak about how he began working with inner-city kids in the mid-1970s, developing a math and science curriculum based on engineering. "It was extremely useful, not to know that something can't be done," Salvadori has said jokingly, recalling his own project's beginnings and the many naysayers he encountered. Twenty years later, at least 100,000 minority students in New York City alone have been exposed to his approach, and his educational materials have been incorporated into the curricula of schools not only across the United States but around the world. And so it was that LaBelle turned to Salvadori for advice.

Having integrated many of his ideas into her teaching, LaBelle feels deeply indebted to Salvadori. But her approach is distinct, since it builds far ►121

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continued from page 119

to be an exercise." And he predicts that "design education will change only when general education is freed from the death grip of verbal and math skills and allows students to use all their senses and sensitivities to communicate and formulate their future."

But that future seems to be caught in a holding pattern in all areas of American education. Steven Holt identifies one hurdle: "How can it be, in 1995, that there aren't industrial design programs at colleges and universities such as Amherst, Bates, Berkeley, Boston U, Brown, Columbia, Cooper Union, Cornell, Georgetown, George Washington, Harvard, Haverford, MIT, NYU, Oberlin, Princeton, Sarah Lawrence, Swarthmore, Trinity, Tufts, UConn, UMass, UPenn, UTexas, Vassar, Wellesley, Wesleyan, Williams, Wisconsin/Madison, and Yale? All these schools have various combinations of art, architecture, engineering, and business departments, but none has an industrial product/design program. How, in what is by all accounts a product-centered society, do we expect to get good products if we do not teach design at our top schools?"

lessons to build on

continued from page 83

more on the community in which the children live and their place in it. And while Salvadori employed architecture and engineering to teach science and math, LaBelle has discovered that architecture can be the touchstone for just about every academic subject.

"The kids see an arch," she says, "and that can lead to a discussion of Rome and Roman history. And then we can look at the materials the Romans used—concrete for instance: we can talk about how it was around then and how very little it has changed today. We can talk about how the arch changed the whole concept of space: how interior space developed and then the decorative arts. We even get into music," she continues. "We look at the rhythms that are created in the windows of a building. Kids isolate the window types, then they each get a different rhythm instrument and we have an orchestra that plays the building."

About the time that LaBelle was putting together her education program, Tony Viscardi had just begun teaching architecture at Lehigh University in Bethlehem, Pennsylvania. Dissatisfied with the current state of practice, he had turned to teaching as a way to instill in architecture students the social conscience and the appreciation for imagination and detail

that he felt the profession had lost. He had them, for instance, design a space for daydreams. "One student created something that resembled a da Vinci flying machine," Viscardi recalls. "There was a sort of vertical shaft—a dark area one had to endure to get into this light and airy, almost wing-like space. It was incredibly beautiful, made with soft paper over extended wood."

As another project, Viscardi asked students to make models of half-bridges. He then paired the halves to teach his pupils about "creating bridges of relationship," as he puts it. But the most important bridge of relationship to be created, he tells them, is with real communities. In fact, he encourages his students to make their way down the hill

"I'd like kids to understand that architecture exists everywhere," says Tony Viscardi.

from the Lehigh campus into town to look around and see just what needs building and where. Their observations have inspired them to design models for a dance studio, a multipurpose arts center, and park areas in the no-man's-land around what was once the old industrial canal in the center of town.

"Tony was always looking for places where his students could actually build full-scale," LaBelle says. She met Viscardi when she moved to Bethlehem to run an after-school program, called Archi-Kids, out of the Smart Discovery Center, a hands-on science museum affiliated with the Department of Education at Lehigh. Located in one of Bethlehem Steel's former office buildings, there was plenty of room for architectural experimentation, so Viscardi and LaBelle decided to see just what university students and elementary students could teach one another.

Both groups started out exploring the body as a metaphor, focusing specifically on joints. LaBelle's priority—as always with her age group, nine-to-12-year-olds—was to make the abstract concrete. She had them make hands out of rubber bands, beads, and wood dowels, so that they would understand the interrelationship of parts to the whole. Meanwhile, Viscardi used an investigation of the body's joints as a way to ground his students in detail.

Next, the two classes turned to an actual project. The Smart Discovery Center wanted to create a series "Smart Towns," different exhibition areas devoted to math, science, and the like in the building's former offices. Viscardi's students were to come up with ideas for halls to connect the various towns. The group worked out a make-believe subway system that ▶ 123

lessons to build on

continued from page 121

would transport visitors imaginatively past building styles through the ages. The grand-hall-like entrance was Classical in style, but as Viscardi explains, it was translated into the contemporary language of wooden one-by-fours and nuts and bolts.

As you move down the hallway, he says, "your typical column approach starts to tip out and rely more and more on tension cables. Columns become less vertical, more diagonal, creating some interesting distortions. Not only that, but the hallways become interactive. Several contraptions were set up that could move the ceiling up and down. But basically the halls were about progressive transformations of material—the final one was a totally suspended tension system with the one-by-fours nearly lost in a web of cables like a butterfly caught in a web."

LaBelle's students watched the initial process—design to mock-up. Then when construction began, they built right alongside the older students. One would drill holes, another would sand, someone else would work the jig. "It was like a giant erector set, but better," recalls a student. And then after just two weeks of actual building, it was complete, tension cables acting like muscles, beams working like bones—the metaphor had come to life.

"There were times," Viscardi says, "when my kids were explaining things to Diane's students and other times it was very much vice versa. Some of the role reversals were pretty amazing. It was Diane's students, for instance, who came up with the models for the mechanisms which moved the ceiling."

Next summer, LaBelle and Viscardi are hoping to do it all again, only this time with real pedestrian bridges suspended over the canal, which Viscardi believes could become a "zipper uniting the two sides of the town." They also plan to pair up at-risk high schoolers with students from Lehigh. The Salvadori Foundation will be involved, too. Students will spend two all-day sessions at the Smart Discovery Center, and Salvadori himself will supervise the building of the bridges. Now it's a question of waiting to see if the grants come through.

Meantime, LaBelle and Viscardi have set up a small architectural firm in Bethlehem, where students from Lehigh, as well as those from various area elementary and secondary schools, will be welcome to come and join in. In addition to everything else these children have learned, they've developed a sense of aesthetics and a vital relationship to architecture. "I'd like kids to understand that architecture exists everywhere," says Viscardi, "in watching a bird build a nest, in walking around in the city, or dreaming about outer space." And so they will, if he and LaBelle have anything to do with it.

ELIZABETH HANLY is a frequent contributor to *Metropolis*.

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