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THE PROFESSIONAL'S RESOURCE FOR PUBLIC ARCHITECTURE ■ DECEMBER 2007

Religious
Buildings

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Richmond, VA
Permit No. 2247

Traditional Building
4800 30th St., Suite 100
Brooklyn, N.Y. 11208
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Fiat Lux

Two experts discuss lighting in sacred spaces.

By Nicole V. Gagné

The Gospel of St. John tells us that in God “was life; and the life was the light of men. And the light shineth in darkness; and the darkness comprehended it not” (1:4-5). For any architect restoring an old house of worship or designing a new one, that verse holds a special connotation, because the character of the light within a sacred space is essential to its purpose of leading people to a sense of the divine.

This examination of the design of light in old and traditionally styled new churches offers the wisdom and experience of two renowned experts in the field of sacred architecture: Duncan G. Stroik, principal of Duncan G. Stroik Architect, LLC, of South Bend, IN, and Carter Hord, principal of Memphis, TN-based Hord Architects.

For Stroik, the primary question with church lighting is the role of natural light. “Our first interest is how to bring in natural light in a beautiful way, in an ineffable way and in a spiritual way,” he says. “With churches, I’m more interested in the light being somewhat mysterious and generally from above. To some extent, we’re giving the anthropomorphic sense that verticality leads us to the divine; that sense of the light coming from the divine to enlighten us is what we’re after.”

The trick is to introduce the light of the world without bringing in that world. “There are two ways that I like to bring in natural light up above,” says Stroik. “One is by clerestory or an oculus – you see the windows and you see the light coming in. The other way is to bring it in more mysteriously, where you don’t see where the light is coming in. There are some great domes in the world that bring in the light indirectly, and you don’t actually see the sky. We haven’t gotten to do that too much, but I really like that.”

Hord shares Stroik’s enthusiasm for natural light. “I think the natural light is the opportunity to allow God’s presence in the space, because it’s constantly moving, and it’s natural and inspiring,” he says. “Some churches don’t want natural light to come into the space; they want to control it completely. We prefer to use it as a tool, hand in hand with artificial light. Clearly there are opportunities for clerestory lighting, which allows light to wash in up high in a space, across a ceiling, without giving you a lot of direct light.

“If you rely on natural light entirely, however, you have to be careful about where it goes at different times of the year, even times of the day – you think about worship times and special prayer times. Matthew Lee, one of the architects in our office, always charts the sun angles on the site plan; we do that in a site analysis. In that way we can analyze what our options are. You can’t rely on it too much, obviously, because the light’s not always available – or available when you need it.”

The design of fenestration to admit sunlight also involves fundamental decisions about the presence of stained glass. “My hope,” says Stroik, “is that the interiors can be lit naturally much of the time – certainly on a normal day that’s not overcast or stormy – and that you could actually read a book or see artwork without turning on electric lights. That’s my goal, and stained glass makes that very difficult.”

“Our clients are Catholic churches, and many people in this country equate churches with stained glass,” he adds. “With stained glass, except for a very, very bright day, people expect electric lights. And that’s fine, because the idea of the stained glass is the images. Of course, you can’t see them at night, but the whole point of natural light is that, when it’s not light out, you don’t see them. If you go to church at night or on a dark day, that’s going to be part of the experience.”

Hord detects a trend away from stained glass, which he regards with mixed feelings. “I think that stained glass is probably used today more sparingly than it was a hundred years ago,” he says. “You can debate whether that’s a good thing or not. Stained glass is a really profound way to convey meaning in architecture – through symbolism you convey either Scripture or tenets of your faith.”

“The lighting of stained glass is something that really needs to be considered both internally and externally,” adds Hord. “At night, when the building might be closed, it’s nice for the stained glass to be luminous on the exterior for somebody who’s just passing by, so the building has a glow to it. Conversely, during the morning the natural light would be coming in and illuminating the stained glass.”

Along with the desire for a specialized lighting that evokes the sacred, there’s also a need for clarity and function in the lighting of churches. “People today expect light to function better than they did a few decades ago,” says Hord. “They’re aware of technological advances and would like to have, for instance, the



Saint Luke’s Episcopal Church in Jackson, TN, suffered extensive damage from a tornado in 2003, losing its roof and the bricks of its front façade. Hord Architects restored the pre-Civil War, Gothic Revival church, which was dedicated in 2006. Carter Hord’s intention to re-create the interior of an antebellum church demanded an especially sophisticated lighting design, hiding virtually everything but the pendant fixtures. Photo: Jeffrey Jacobs Photography

same amount of foot-candles at the hymnal level in every seat in every pew. That takes some calculations, careful fixture selection and photometric diagrams to figure out where the light’s really going: the distance from the floor for mounting height, the type of lamps, those kinds of things.

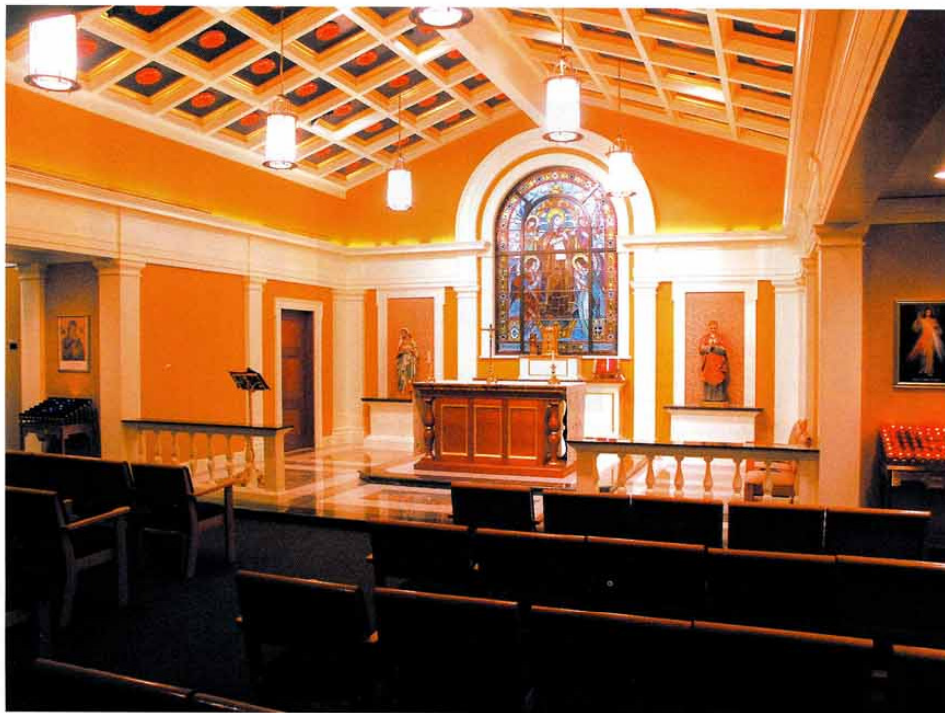
“While you’re trying to solve all of those programmatic and practical requirements, at the same time you’re really trying to make sure you’re inserting some source that is consistent with the rest of the language of the architecture that you’ve chosen.”

Stroik concurs. “We’ve gotten acclimated to bright spaces, or the ability to make spaces bright with electric lights,” he says. “When you have people reading a hymnal or the Scriptures, they want to see it perfectly, like they’re sitting in their kitchen or their living room with the light right above their head. Everybody has these higher expectations of lighting, almost task lighting, for people in the pews, as well as people in the sanctuary or the altar, and we try to provide all that.”

The efficient and discreet design of electric light ultimately defines the success or failure of the space, as Stroik explains. “Right now we’re experimenting with beautiful large custom chandeliers that also have hidden up-lighting that reflects on the ceiling and bounces down onto the people and lights up the space,” he says. “If you have any painting or decoration on the ceiling, it makes them quite wonderful.”



The Frederick Seventh Day Adventist Church in Frederick, MD, was designed by Hord Architects as a Georgian Colonial. This detail shot of the interior shows three small windows – located in a corner of the ceiling – with tinted and stained glass. The pair of paned windows and the single oval-shaped window bring highlights of colored natural light into the space. Photo: courtesy of Hord Architects



Duncan Stroik's firm handled the renovation of this chapel in Houston, TX, which is dedicated to St. Thérèse of the Little Flower. (Note the stained-glass portrait of St. Thérèse of Lisieux, commissioned for the redesigned chapel.) Along with a new marble slab floor and a custom wood and marble altar, ecclesiastical pendant fixtures were installed to provide the chapel's primary lighting. Photo: courtesy of Duncan G. Stroik Architect, LLC

"Not having chandeliers, of course, is more economical," continues Stroik. "They're very expensive and they're pieces of art, so they cost a lot of money. I personally like the idea of the chandelier. There's a quality of light, a sparkle when it's lit and you see where the light is coming from. And if they're beautiful bronze or cast-iron chandeliers, they add another layer to the interior."

"It's challenging to figure out where to put them. Under a dome you usually don't have chandeliers, so you rely on some kind of hidden up-lights. Then there's the artwork, the shrines, the altar, the tabernacle and the ambo. They need to be lit up much more, both for the people standing there and to make them a focus. Again, that's our expectation today – that things pop out."

"The style or period of a particular fixture has a lot to do with how coherent the interior design is," says Hord. "You can spend thousands of hours detailing a really spectacular building, and if you don't put the right sort of light fixtures in that space, it can really be unfortunate. They like for us to take the lead on that, and we gladly accept that responsibility."

This responsibility includes an often overlooked consideration: "One of the key points we hear from many building committees is, 'Please design lighting where we can change the light bulbs,'" says Hord. "I think a lot of architects, church architects in particular, leave owners with buildings that are hard to maintain in that respect. We have to respect the maintenance crew as well as the need for a beautiful space."

In dealing with the technical complexities of light, both Stroik and Hord have benefited from the collaboration of lighting experts. "Usually we use our electrical engineer, who works closely in concert with our in-house designers; we work as a team," says Hord. "But lately we have teamed with Jeffrey Jacobs [of Jeffrey Jacobs Photography Inc., of Memphis, TN] as a special consultant for the lighting on a new project that we're doing. He's actually trained as an architectural photographer but he understands light on a level at which, I think, many architects may not even understand it."

"We have a very good lighting consultant that does all our projects – George Sexton Associates in Washington, DC," says Stroik. "They do museums and gallery installations, and also lighting for a lot of churches. They're very good at giving emphasis to an altar, a painting or a statue in a way that's not harsh. We want it to feel natural even though we're popping these things out, and that's a challenging problem – it has to look almost as if the sun was coming in at that moment and hitting that area."

If the design of lighting for a new church introduces a seemingly infinite array of challenges, the retrofit of a vintage church only makes all the challenges tougher,

wheels – and added can lights, which I think take away from the beautiful ceiling. They're way up there too, probably 70 or 80 ft., so they don't light the space very well. We would like to get rid of them and bring back chandeliers, but we don't have a good place to hide up-lights. So I'm proposing that we either reproduce the chandeliers that were there originally, or do new ones that are in keeping with the building, only with some up-lights hidden in the tops of the chandeliers to light the ceiling and bounce down to the people."

Code restrictions provide another limitation when redesigning interiors. "In a retrofit or renovation, sometimes you have the challenge of pulling out the old wiring that was there, because a lot of it isn't code compliant," says Hord. "There's not always a convenient space to run conduits, so you have to be creative or clever about how to disguise it. Code compliance is important in any renovation, and there certainly have been buildings that were lost to electrical fires."

Such renovations can also enable a savvy architect to get the best out of an historic space, because they require what Hord describes as "a more deliberate approach as to where the lighting is going and how much more of it is getting there. For instance, we helped with the renovation of St. Mary's Episcopal Cathedral in downtown Memphis a few years back. It was a High Gothic building, and the apse end of the church, behind the altar, had this really beautiful tracery and some nice pointed-arch detail, but it wasn't really apparent – there were church members who'd been there for years and never really knew that this level of detail was there. But after the renovation we were able to better illuminate that area. It didn't change the architecture at all, just brought it to life. The architect who came before us had done a splendid job. We just were trying to respect what he had done." ■



Above and right: Duncan Stroik designed this private chapel, located in a Nebraska residence, in the style of the Florentine Renaissance, with a vaulted nave and domical sanctuary. The bronze crucifix is flanked by Corinthian columns and a pediment, drawing the eye up. The images of the four evangelists appear in roundels in dome's pendentives, and at its summit an oculus admits natural light. One of the four side chapels is dedicated to Our Lady, whose image by the sculptor Roberto Santo is carefully illuminated by the chapel's subtle lighting design, "almost as if the sun was coming in at that moment." Photos: courtesy of Duncan G. Stroik Architect, LLC

