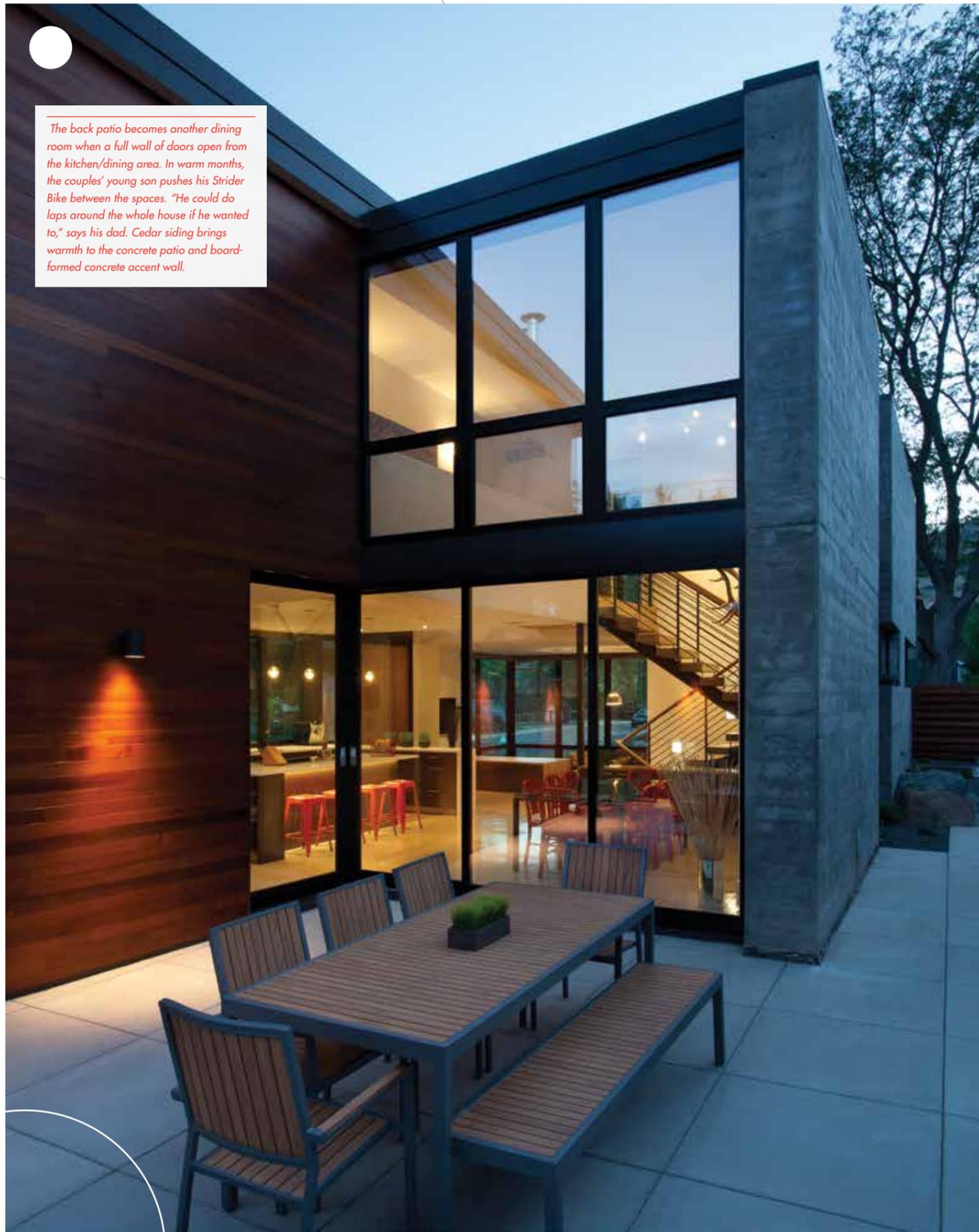


The back patio becomes another dining room when a full wall of doors open from the kitchen/dining area. In warm months, the couples' young son pushes his Strider Bike between the spaces. "He could do laps around the whole house if he wanted to," says his dad. Cedar siding brings warmth to the concrete patio and board-formed concrete accent wall.



## REINVENTING THE WHEEL

Complex Boulder building codes didn't throw a wrench in Arch 11's plans to materialize the dreams of one cycle-centric family. Here we take a tour of their space from beneath the ground up.

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**I**n simpler times, building restrictions didn't apply to people living in caves making wheels out of stone. Several thousand years brings us to an era when people make a living riding those wheels as fast as they can, but still need a place to inhabit. Such is the case with two Boulder residents, one of which is a professional cyclist, and her husband, a cycling coach. And even though they're not cave-dwellers crammed into a crevice, it started to feel that way when their equipment could no longer be contained within their small home and garage. It was clearly time to evolve.

For this project, Design-Build firm Arch 11 was challenged to accommodate not only the specific needs of such an active family, but also had to comply with strict city guidelines. New rules limited how much square footage the family could build on the corner lot they purchased, and how the space is expressed in terms of environmental impact—among the myriad of other considerations. But for Boulder, basements are basically out of sight out of mind, so that's where E.J. Meade, Ken Andrews and the Arch 11 team maximized the cycle culture of their clients.

A concrete and crushed rock pathway leads to the house where the first view is of the three-level staircase. The sunken living room is to the left, offering wide street views.

The open kitchen was built by Hammerwell of Boulder, an interior/exterior building firm. The corner lot is set back from the street and doesn't overpower surrounding homes, per strict residential codes and the careful execution of the Arch 11/Hammerwell team.



... in geometry, a dihedral is the angle between two mathematical planes. "Those two lines are rigorously carried throughout the entire composition of the house, It's not exactly a generator for the house's organization, but more of a synthetic device." Ken Andrews

Beneath the ground is their massive 2,100 square-foot basement with ten-foot ceilings. Power Bars and miscellaneous gear finally got a proper place within the ample storage additions. A custom mudroom was paired with a basement entrance, which the couple can reach by riding their bikes down a flight of low-tread stairs, designed for such use. The family's children aren't yet of riding age, but any parent will tell you that having a basement playroom for toys and messes that can stay put even when a dinner party is scheduled is enough reason to raise a glass. Space for an exercise room was also allotted in the plans. A breezeway to the garage was another bonus—not to mention that they can actually park their cars in it now that outdoor gear is buttoned up.

Moving upstairs, the tri-tiered floating staircase is a central feature, not an afterthought. "There's a strong connection between the basement and the second floor," says Ken Andrews, who was in charge of seeing this project through to the end. A large window placed in the stairwell makes for a vibrant transition; one usually lost between subterranean spaces and the ground floor. Once arriving in the dining/kitchen space, smooth polished concrete floors bring a cozy yet primitive feel and can hold up to high-traffic. Sweeping street views and the ability to open a full wall to the back patio was an intentional move to bring the outdoors inside. "There's daylight in every room," E.J. Meade, principle at Arch 11, points out. The largest volume of glass encompasses the sunken living room. It looks out on a simple lawn spotted with

boulders that double as climbing spots for the family's young kids.

Rocks play an integral role in the conception and orientation of the home. It's called the Dihedral House—an interesting albeit unfamiliar idea to those unschooled in geology. "In geological terms, it's an angular sheer that happens in a rock formation," E.J. explains. Similarly, in geometry, a dihedral is the angle between two mathematical planes. "Those two lines are rigorously carried throughout the entire composition of the house," Ken points out. "It's not exactly a generator for the house's organization, but more of a synthetic device."

The concept is most overt upon arriving at the top floor where these guidelines situate the home for a view



"Being a younger couple, they were very open to exploring ideas of material, design and space," says Ken. Arch 11 is well versed in creating an aesthetic they define as "dirty modern." They choose materials and methods that unite fresh, contained structures and offer an elemental feel. "We try to limit our pallet in every project," E.J. points out, "There is no exotic aggregate."

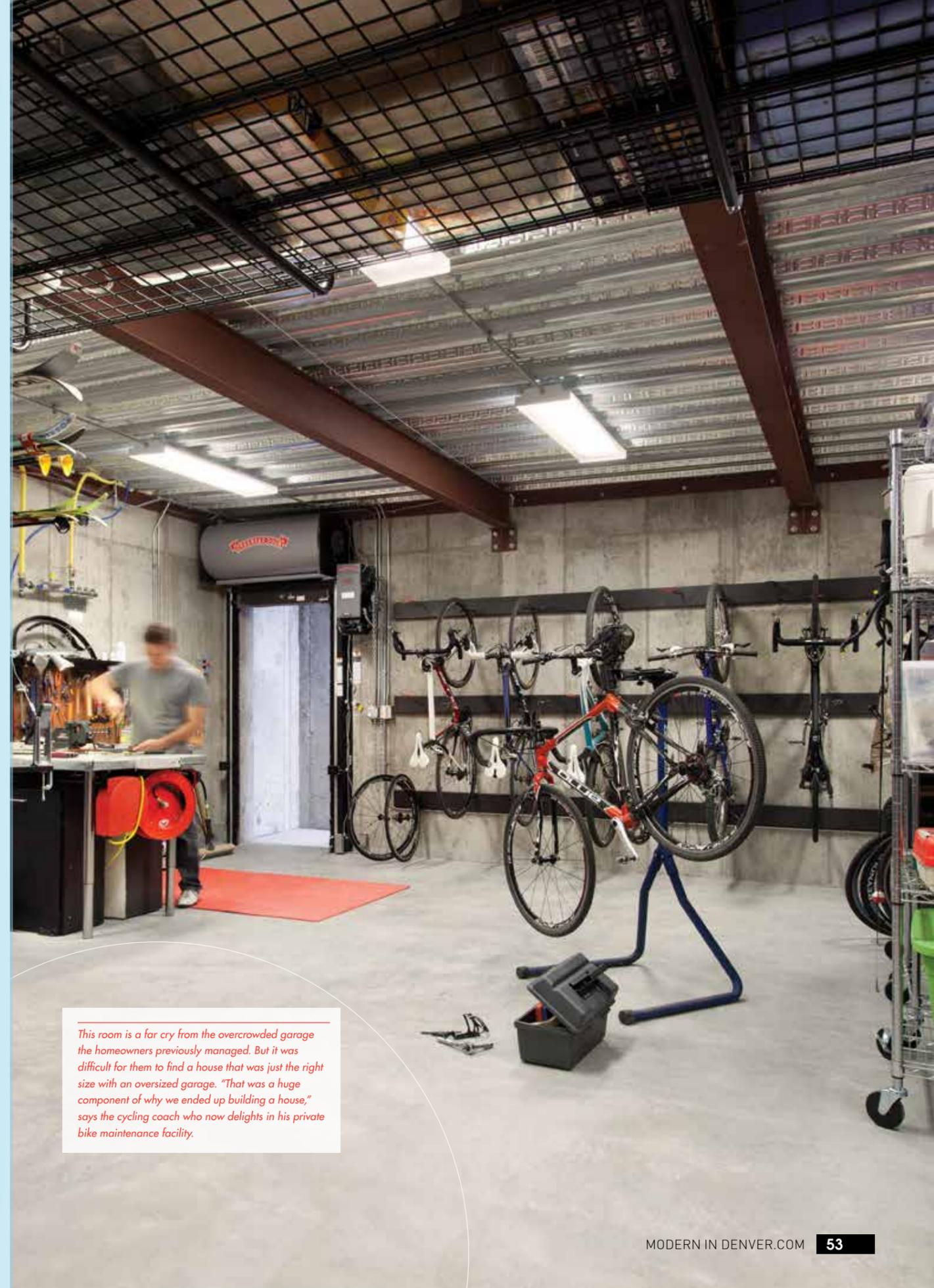


*Excellence in design and craftsmanship means the homeowners can let the space sing without needing to fill it with objects. However, the elk rack that was previously hiding out in the couples' old garage creates a focal point and adds intrigue to the modern yet primitive balance.*



of the most important rocks of all—Boulder's beloved Flatirons. Each family member has a room on this level connected by hallways that slightly shrink in order to maintain the desirable perspectives of the home. As with downstairs, natural light is a driving force behind the design. "The shower acts like a lantern," says E.J. regarding the full pane window of frosted glass in the master shower that spills light into the entire bathroom. Sensitivity to their clients allowed ample opportunities for Arch 11 to rise to the occasion, as they folded intimate details into a stunning product.

"We try to limit our palette in every project," E.J. explains—and the informed material choices allow the Dihedral House to shine. The corner home is exemplary of eco-friendly Boulder values paired with world-class execution, thanks in part to the dynamic partnership of board-formed poured concrete and cedar panels that tie the space together. "Historically, it holds up really well," E.J. says of a house that has brought this family out of the Stone Age and into a modern era.



*This room is a far cry from the overcrowded garage the homeowners previously managed. But it was difficult for them to find a house that was just the right size with an oversized garage. "That was a huge component of why we ended up building a house," says the cycling coach who now delights in his private bike maintenance facility.*