USER SUCCESS STORY

Architect Uses CINEMA 4D to Reconstruct Ancient Indian Ruins
The software is helping Dennis Holloway raise awareness of a lost culture.

Architect Dennis Holloway has been fascinated by Native American architecture since he was a kid growing up in Michigan. But it wasn't until 1990, when he moved to New Mexico, that his passion for the subject really began to take shape. All around him, the desert landscape offered up ruins of stone and adobe buildings constructed out of mud and dirt by ancient Pueblo Indians beginning, many archaeologists say, around 750 BC.

Holloway studied these ruins, which were often little more than rubble and collapsing walls, in his spare time and soon realized that using MAXON's CINEMA 4D he could create 3D reconstructions of these long-lost places, enabling people to better see and understand how these ancient structures were built and used by their inhabitants. "In graduate school we studied the writing of the philosopher John Ruskin and he said that anytime architects delve into the past, they revive the memory of a culture," Holloway says. "I like to think that's what I'm doing with this work."

Holloway, who is known for designing structures that fit seamlessly with the Southwestern landscape, was introduced to CINEMA 4D in 2001 by artist and friend Ron Davis. Having heard positive things about the software, Davis thought it would be a great tool for the two of them to try. From the start, Holloway was amazed at how quickly and easily he was able to create dynamic designs that helped clients better visualize what a building would look like. "CINEMA 4D is a wonderful, expansive tool," he says. "I'm good at sketching but I don't even have to have a pencil in my office anymore. I can imagine what I want to do and go directly into CINEMA 4D to make it, then translate it back into construction drawings using Vectorworks."

One of the first ancient places Holloway reconstructed in 3D was Pueblo Bonito. Built in stages, many believe, between 935 and 1260 AD, the five-story structure is one of the largest and most notable ruins in northern New Mexico's Chaco Canyon. As always, Holloway began the design process by gathering archaeological data on everything from the number of stories the building was thought to have to elevations and floor plans. Check out Holloway's Pueblo Bonito models.

Stephen H. Lekson's book "The Architecture of Chaco Canyon, New Mexico," is one of the best sources of information on these types of ruins, says Holloway, who has made more than 100 3D models of reconstructed ruins. By scanning drawings from Lekson's book, he often has enough detailed information to begin building his models. Most of the walls in Holloway's model of Pueblo Bonito were created using the spline tool for tracing wall shapes, and then using an Extrude NURBS object set to the perceived height of each room.

USER SUCCESS STORY

After importing a drawing into Vectorworks, Holloway creates a scaled plan by inputting specifics, e.g. 1 inch is equal to 30 feet, and outlining the entire object to come up with the dimensions that bound the topography: for example, 300 feet by 600 feet. Holloway then makes a screenshot of the plan. Once the scaled plan is brought into CINEMA 4D, he traces and extrudes different parts of the building. When creating the topography mesh, he often utilizes CINEMA 4D's layer system to organize complex structures.

When working on a model of the Yellow Jacket Pueblo, the site of a large Puebloan village in southwestern Colorado, Holloway created the complex topography where two canyons converge by building his model in stratified layers rather than a smooth mesh. A tree, imported from On-yxTree BROADLEAF, was used "to bring some scale and realism" to the scene, Holloway says, adding that he often uses Photoshop to combine photographs of ruins with his 3D models in ways that help put the entire scene in context.

The model of the Yellow Jacket Pueblo was just one of several projects Holloway has done for Colorado's Crow Canyon Archaeological Center. The Center also asked him to work on a recon-struction of Castle Rock Pueblo, a prehistoric village near Cortez, Colorado, that was inhabited for 30 years and suddenly abandoned in 1285 AD.