The Sun Dagger Interactive

The Sun Dagger

Alan Price, Professor of Visual Arts at UMBC, has completed one phase of an ongoing research project in collaboration with Anna Sofaer, Archeoastronomer and President of The Solstice Project, the Imaging Research Center, UMBC, and the Adler Planetarium and Science Museum, Chicago, Illinois. The product of this work is an interactive real-time computer simulation of the ancient Sun Dagger site on Fajada Butte in Chaco Canyon, New Mexico. The interactive program is now part of a permanent exhibit on cultural astronomy at the Adler Planetarium in Chicago. The exhibit opened on March 20, 2002.

Production

The interactive program displays on screen a 3D recreation of the stone slabs, petroglyphs and cliff wall making up the Sun Dagger construct. The geometry defining the stone slabs was derived from photogrammetry of the site produced on glass plate negatives in 1979. Users may interact with the scene by navigating in 3D to explore the site and manipulate several controls to adjust the time of year and time of day. Astronomically accurate positioning of the sun's light casts shadows of the stone slabs onto the petroglyph to recreate the actual events marked by the ancient calendar system, allowing users to experience a place no longer accessible to visitors of Chaco Canyon.

Production Notes

Title: The Sun Dagger Interactive
Client: The Solstice Project and Adler Planetarium and Science Museum
Description: Interactive real-time computer simulation of the ancient Sun Dagger Site.
Director: Alan Price
Additional Modeling: Dan Marsh