

Chavant News

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Clay Stands Its Ground
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Carl Olsen has some encouraging words for all those clay modelers who wring their hands out of fear that computer-aided design could someday wipe out their art form. "I think models will always have to be made, possibly not from clay but from a resin material," says Mr. Olsen, chairman of the Transportation Design program at Detroit's Center for Creative Studies (CCS), a key training ground for automotive designers.

Besides, no automotive executive in his right mind would sign off on a vehicle project - at a cost of \$1 -billion or more - without being able to walk around it, look at it from all angles, touch it, see the light reflecting off of it, all in full size, Mr. Olsen says.

The full-size clay model is essential for building a fiberglass replica, which can then be displayed for consumers in focus groups. "If you're going to clinic the car for market testing, you need cars you can climb in and out of and set next to competitive cars," he says. "There's no way you can avoid that."

But words may do little to ease the minds of modelers who have watched the computer age revolutionize so many occupations, from librarian and record-keeper to writer and filmmaker.

The modeling ranks already have been thinned by the arrival of automated milling machines that use a computer image to carve up a block of clay into a rough model. This, however, is where clay modelers will still have a future. "**I don't know** of any designer who could design in the tube and have it milled out and have it 100 percent to what they wanted," Mr. Olsen says. "Inevitably there will be some modification, and likely that modification will be done by hand. What this means is the clay modeler will be used for what he does best, i.e. the subtle refinements as opposed to a lot of rough modeling."

While maintaining a healthy respect for clay modeling, Mr. Olsen is a pioneer in the area of computer-aided design. In a stint at Citroen SA, Mr. Olsen led a team of designers in 1984 in developing the "Eole" four-door sedan show car, which was the first car in the world designed entirely by automated process. The vehicle was completed in a matter of months and exhibited at Geneva in 1985.

The future of clay modeling is an emotional issue for some. An article in June's Ward's Auto World on the great potential for three-dimensional holograms in automotive design prompted an eloquent letter in defense of clay from 76-year-old Frederick Hoadley, who retired from Ford's Design Center in 1978 after nearly 40 years with the automaker. He's written a book about design modeling and plans to publish it this fall.

"Styling clay models are not going away," he writes in his letter, noting also that talk of clayless design extends back to the early 1970s. While Mr. Hoadley sees great savings of time and money in computer-aided design, he agrees with Mr. Olsen that management is not likely to approve a program based solely on holographic images.

Ford Motor Co. touts its European compact car, the Puma sports coupe, as the company's first fully computer-designed vehicle. The process took a mere four months, compared with more than a year using traditional design methods. Only when the final design was complete was a full-size clay model made and submitted for management approval.

With a high-powered global computing network, Ford is eager to embrace time- saving holographic technology. One of the company's key goals is to eliminate 90% of all the physical prototypes used today by the year 2000.

But a major roadblock facing computer- generated holographic images is that they cannot yet be projected in full size, so the picture is less than complete.

John Watts, assistant manager of product planning for American Honda Motor Co., admits that evolving computer technology offers the potential of someday designing a vehicle without clay.

"It's a possibility, but it will be a while before we can achieve that. As long as top management can see an image and be satisfied with it, it is possible" he says. The potential for computer-aided design can be seen in Boeing's new 777, the first aircraft created without a full-size mockup. "It was essentially paperless," says Mr. Watts, who has flown on the new jet and sings its praises for quietness and comfort. "There was speculation it couldn't be done, but they proved it could be done."

While obvious tensions could exist in a studio between clay modelers and computer designers, Mr. Watts says the two sides work well together at Honda. "It's not an issue of old vs. new. The modelers appreciate what the computer guys do, and the computer guys appreciate what the clay guys do with their hands."

Clay has such a long automotive tradition that designing a vehicle without it is a foreign concept to many. "Designers like to feet and touch and do things with their hands. For that reason, clay will probably have its place for a long time," Mr. Watts says. "We still consider it art, and art is created by the hand."

At CCS, Mr. Olsen is optimistic about the future of modelers who maintain their skills with clay while developing computer-design abilities. That means viewing the computer as a helpful tool - not as an occupational threat.

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