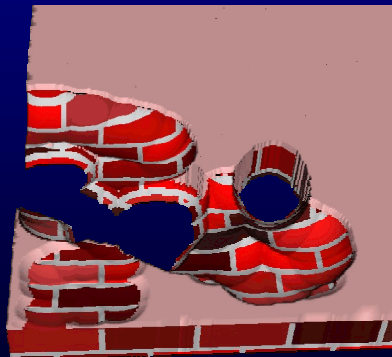# Sculpting 3D Models

Dorsey & McMillan

- Combines the fidelity of a boundary representations with the flexibility of a volumetric model
- Interactive surface modification
  - Rich set of shaping tools
  - Tools for simulating natural processes
  - Tactile feedback
- Multi-resolution
  - adaptive rendering speed
  - quality and resolution-demand

3D Surface Exploration

Next: Stage II

- Integrate head-tracked stereo display with haptic interface

- Large format plasma display
  - ᵤ Virtual working surface
  - ᵤ Usable in ambient light
  - ᵤ Flat (no projection volume)

- Natural interface
  - ᵤ Aids comprehension
  - ᵤ Direct manipulation of surfaces
  - ᵤ Interact with simulation

Future Directions

- Multiuser stereo displays

- Modeling layered and composite materials

- Virtual user-guided simulation environments

- Materials that deform, change shape and appearance through manipulation

- Next generation 3D modeling system