

Art 384: Introduction to 3D Animation

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Lecture 12

Schedule

- Roll
- Midterm
- Sensitivity, PC-ness, workplace politics
- Lighting and Materials

Who do you offend?

- Can you tell who is offended?
- Before it's too late?
- Are you David Geffen already?

Materials

- Controlled via Attribute Editor AND Hypershader
- Hypershader
 - NOT "hypergraph" -- that's different
 - node-based interface
 - window -> rendering editors -> Hypershade

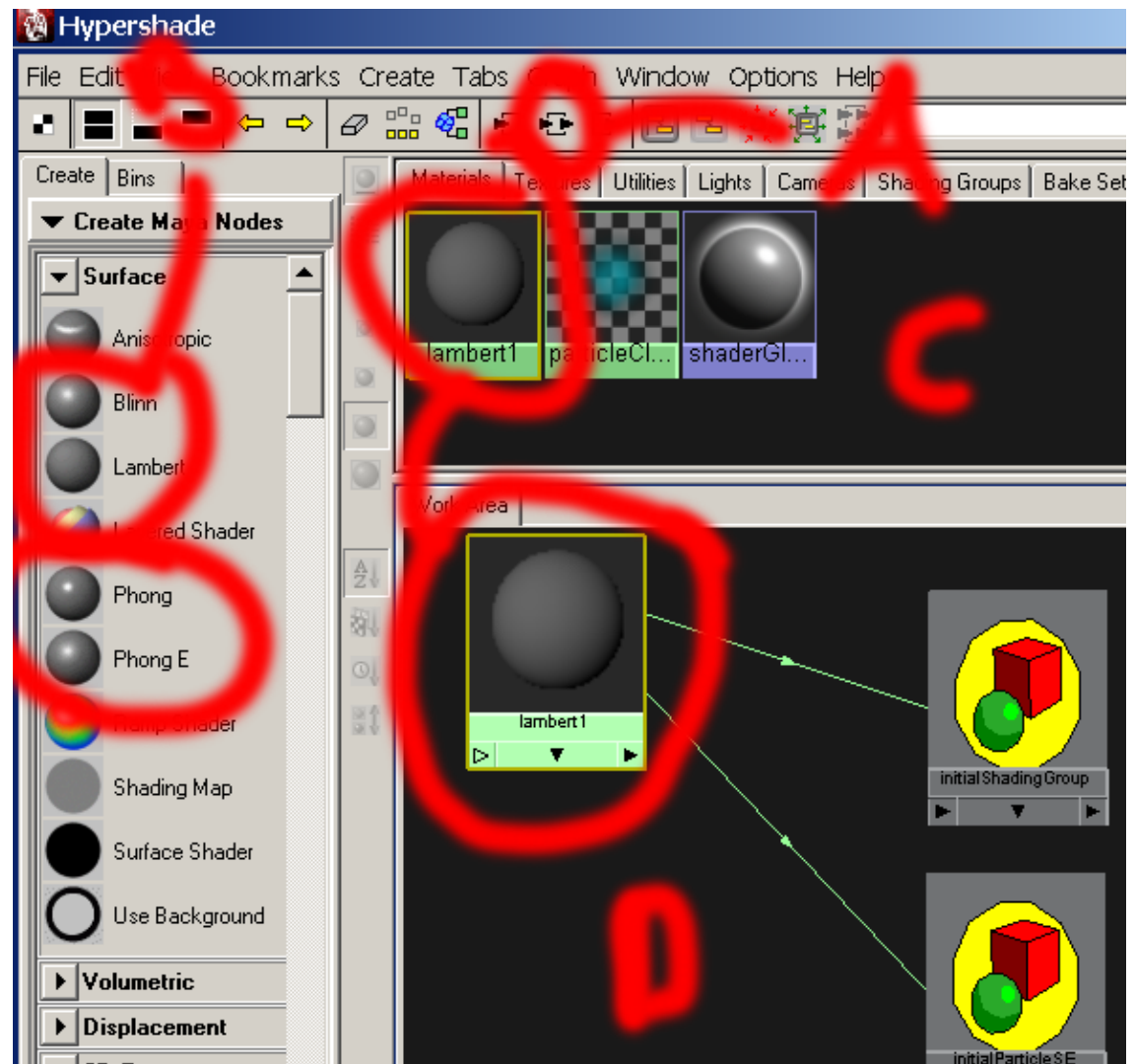
Hypershader windows

A: Show inputs and outputs

B: Make new materials

C: Available materials

D: Material Editing Area



How to use the Hypershader

- Make a new material or click on an existing one
- Map inputs and outputs to see all the nodes
- Click on a node and edit its attributes in the attribute editor window

Putting materials on objects

- Select object
- Use Rendering Menu->Lighting/Shading
-> assign existing material
- OR right-click on the material's node in the available materials list, choose "apply to selected"

Why different material types?

- Light response \sim shyness
- Lambert = not shiny = paper, flat paint
- Blinn = shinier = plastics, shiny paint
- Phong = shiniest = glass, polish

- Many, many exceptions, refinements
- "Technical Director" = shader writer

Mapping inputs and outputs

- LEARN THAT BUTTON AND USE IT
- Exposes the workings of every available node
- Organizes the nodes, so you can tell what's going on
- so, what is going on?

Anatomy of a material

- the "lighting model" node is the center
 - lambert, blinn, phong, etc
 - converts surface geometry and light info into a surface color
 - hence "shader" -- shades in the image
 - inputs change surface color, but not how light illuminates the surface
 - output goes to a "shading group", which tells Maya which surfaces get which material

Options for Materials

- Change shading model
 - changes how surface reacts to light
- Change inputs to shading model
 - changes surface's color, transparency
 - I'm simplifying; you are a beginner
 - many, many options available

Example: Making a "grid" Texture

- Start with a Lambert or Phong
- Select the new material in the Hypershader's "existing materials" window
- Map input and outputs
- Select the "Lambert" node, the one on the left
 - The other one is the shading group!

Adding a texture node

- Find the word "color" in the attribute editor
- There is a color sample- click on that
 - color picker comes up, great.
 - not what we're doing
- Click on the box with the arrow
 - a new window: shader node creator
 - select "grid"
 - TWO new nodes appear