



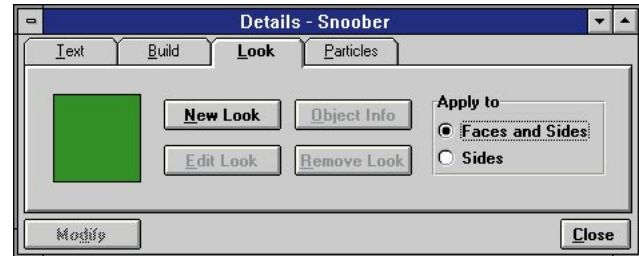
The look attribute

Applying a Look

What's a Look, and why is it an attribute of an object? Well, in the real world we refer to the look of a material, or the look of the light, meaning the visual characteristics peculiar to the material, or light. Pixar Looks mimic these characteristics. When you want an object to be metallic, or rough, or red, you apply the appropriate Look.

To apply a Look to some text:

1. If you're setting the Look of an existing object, select the object by clicking on it in the project window.
2. Make sure the Details window is showing. If it's not, select Details from the Windows menu (or hit Alt-Enter or F2).
3. Click on the Look tab in the Details window.
4. If you're applying the Look only to the object's sides, click on the Sides radio button. Otherwise leave this unselected.



5. Click on the New Look button. This brings up the Browser.
6. Use the dialog to find a Look; click on the Look to highlight it. An example of the Look will appear in the box in the upper left.
7. Click on the OK button. You'll see the selected Look appear in the Looks tab.

The Look will appear on the selection the next time you render. Adjusting a Look is covered in the section by the same name later in this chapter.

You can also apply a Look to objects from within the Score window. With the Score window showing:



1. Click on the gray button just to the left of the name of the object you want to change, or click and hold, and select New Look from the popup menu that appears. (If a Look is already applied, this button will have a miniature icon of the Look on it.) This brings up the Browser.



Then follow steps 6–7 above.

To adjust a Look, see the section on this below.

Copying a Look

To copy a Look from one object to another, you should be in the Score window. Here, you can just drag the little Look icon from one's Look field to the other's.



Using the Browser (“Select a Look” dialog)

Using the Browser, you can build up a palette of Looks to use in your projects. This palette will be available each time you open Typestry.

Click on a Look in the file name list to display it in the Look Example window.

Click on the Add button to add a Look displayed in the Look Example window to the Look palette at the bottom. (Or just click and drag from the window to the palette.)

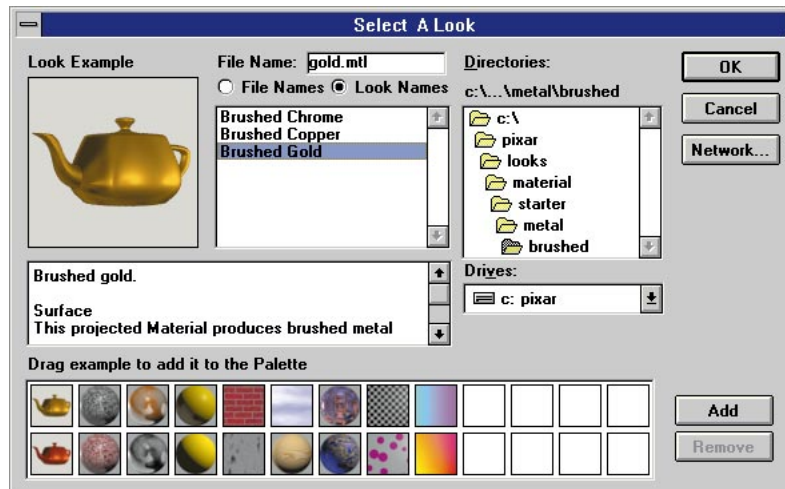
Click on the Remove button to remove a Look from the palette.

Clicking on a Look in the Palette displays it in the Look Example window.

The Look displayed in the Look Example window will be applied to the selected object (text, wall, or floor) when you click on the OK button.

Be sure to use the palette to save time. You can click and drag any example image into the palette. The next time you open the Browser, clicking on the image in the palette automatically takes you to the folder that contains the item and makes it available for selecting. If you have some favorite Looks that you use a lot, drag them into the palette. This way you won't have to search around your folders to get to the right one.

Another thing you can do is to put into the palette Looks from many different directories. To get to a particular directory, just click on the palette image of the Look that's in that directory. (Of course, you'll have to remember what Look is in which directory, but hey, we can't do everything for you!)



- The other way to adjust the Look is to use the Object Info dialog (the effect of the adjustments will only appear when rendered). This contains the most commonly-used controls.

To use the Object Info controls:

1. With an object selected, bring up the Object Info dialog by clicking on the

Object Info button in the Looks tab, or by selecting the Object Info menu item available by clicking on the object's Look icon in the Score window.

2. If the Look allows you to set a color (you'll know because the Color Override box won't be grayed out), click on the Color box to pick a color from the color picker.

- Warning: The Color Override control overrides whatever is the *first* color parameter in the Look Editor. So for Black Marble, for example, it would override the Veins color, not the Base Rock color.

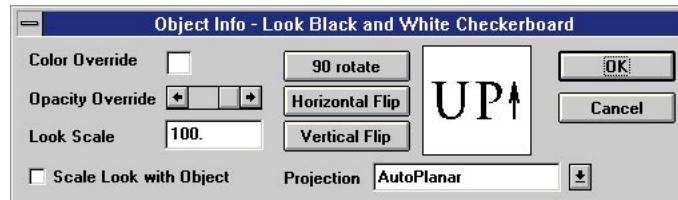
Adjusting a Look

You can adjust a Look on a selection in two ways.

- Clicking on the Edit Look button in the Looks tab brings up the Look Editor. See the chapter on *Editing Looks* for details on using this. The Look Editor allows you to change almost everything about a Look that you might want to.



3. Type a scale factor in the Scale box. 200% doubles the size of a Look's features; 50% makes them half as big.

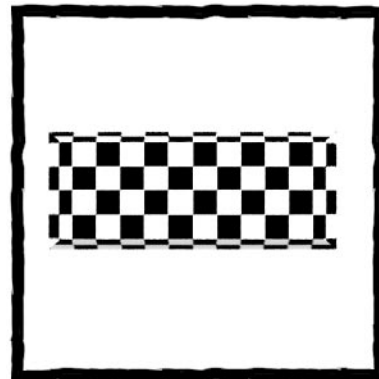


4. Set the opacity with the Opacity Override slider. The effect of this control will vary depending on the Look (e.g., a transparent glass Look will never be completely opaque).

Opacity determines how much a surface “exists.” Don’t get this confused with Transparency! An invisible object may as well not exist — it has no effect

on light, and light has no effect on it. A transparent object can still color the light passing through it, and can still reflect, to a greater or lesser degree.

Note: The effects of the Opacity setting are best seen against a background other than black. A textured background (a wall with something other than a plain Look on it) works best.



adjusting a look
the look attribute



5. Set the orientation of the Look using the 90° Rotate, Horizontal Flip, and Vertical Flip buttons. If these controls are not supported by the Look, they'll be grayed out.



6. Click on Scale Look with object to have the Look change size in proportion to the object. The effect of this control will vary depending on the Look.

7. Set the Projection. A description of these follows. If Projections are not supported by the Look, this will be grayed out.

8. Click on OK to confirm the settings.

- Note: In the Object Info dialog, changing the Color Override or Opacity Override controls doesn't change any settings in the Look. This is so you don't have to save a new Instance of a Look every time you want to see it with a new color or opacity. We made them available in the Object Info dialog because they may be among the controls you use the most. If you want to save these settings with the Look you must make the same changes to the Look's Color and Opacity parameters in the Edit Look dialog.

Projections

Some Looks are really only the raw material for giving a surface a certain appearance. What actually gets such a Look onto a surface is a projection. You could think of a projection as a “sheet” through which light shines onto the object, as a slide projector shines light through a slide and onto a screen. Many Looks are designed to start out as one of these sheets. A sheet can be flat, or it can be wrapped around into a cylinder or sphere that encloses part or all of an object.

There are nine types of projections supported by Typestry in the Object Info dialog:



Generally speaking, you should see how the default setting (Planar Z) works on your object. Then, if you'd like to try an alternative, use:

- For Extrusions, try Box.
- For Tubes, try Natural.

- For Flags, use the chart below.



Planar Z



Planar Z



Planar Z



Spherical Shrinkwrap



Cylindrical Shrinkwrap



Planar Z

Ultimately, which of the projections you should select depends on the shape of the surface and the effect you are trying to create.

You should be able to get good results using the rules of thumb outlined above. But if you're interested in more detailed, more technical descriptions of the projections, read on.

Five of the projections use “sheets” that start out as spheres or cylinders. One unavoidable aspect of using any kind of cylindrical or spherical projection is seams. Obviously, when you wrap a sheet into a



cylinder you'll get one seam; and as you might imagine, wrapping a sheet into a sphere is trickier. A projection's behavior at seams is especially important if you want an image you're using in a Look to tile seamlessly. However, as in so many other things, there's a tradeoff involved. For spherical and cylindrical objects, there's always going to be some distortion somewhere, and you have to choose where.

Take a sphere, for example. While things can match perfectly at a seam running north-south, they would have to be distorted toward the sphere's poles. For things to look better at the poles, there will be distortion at the seam. So you should experiment with the various cylindrical and spherical projections to find the one that matches your needs most closely. When you do this, start with Box Spherical — this produces a pretty good compromise between the two extremes.

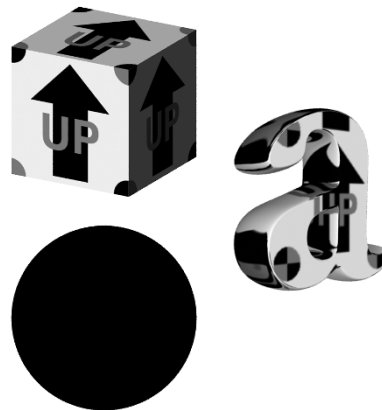
In the accompanying illustrations below, the following image is used for all the projections:



AutoPlanar

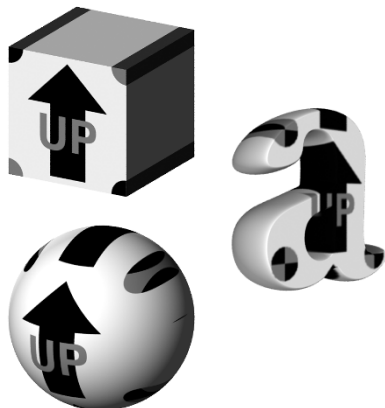
The Autoplanar projection treats the Look as a flat sheet that gets “pressed onto” every face of a surface. Suppose you want to apply a Look to a pyramid. Using this projection the Look would be applied individually to each of the pyramid's faces, based on the face's orientation.

However, in exchange for the generality of this projection, you sacrifice control over individual faces. Autoplanar projections can produce unexpected (but entertaining) effects when used on curved surfaces like bevels.



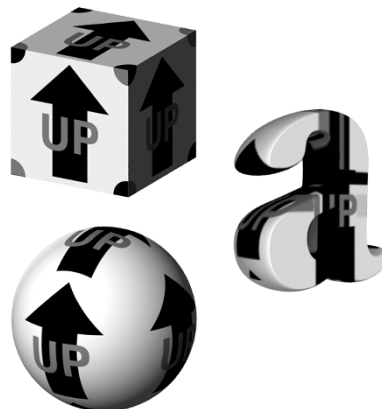
Planar Z

The Planar Z projection treats the Look as a flat sheet: a “slide” if you will, to be projected onto a surface’s front. Another way of visualizing the effect on the object is this: if you imagine that the Look is a sheet of paint, using this projection is like pushing the object through the sheet. The top, bottom, and sides get “smeared,” and the back face has the image reversed. Using the planar projection on an object whose shape is decidedly not flat (a sphere, for example) can produce unexpected (but entertaining) effects.



Box

This applies a Look from six directions, as if there were a large box around the object with a projector pointing inward attached to each side. The difference between this and Autoplanar is that Autoplanar applies a projection from as many directions as there are faces, instead of just six directions.



Box Spherical

Imagine a sphere with six copies of a texture on it, each texture occupying a sixth of the sphere. This then gets projected onto the surface. The size of the sphere is based on the largest dimension of the surface's bounding box. This dimension becomes the diameter of the sphere.

There are 12 seams, where the six copies of the texture abut each other. On spheroidal objects there will be some distortion at the seams, but in general this is noticeable mostly when there are straight lines in the Look. This projection allows seamlessly tiling textures to match at the seams, and for spheroidal objects you should try using this first.



Spherical Shrinkwrap

This projection applies a Look as if it were a spherical sheet that got "shrink-wrapped" onto the object. It covers objects equally from all directions. The size of the sphere is based on the largest dimension of the surface's bounding box. This dimension becomes the diameter of the sphere.

There is one seam, at the back of the sphere. While there is no distortion at the seam, there is distortion toward the "poles." Using this projection on an object whose shape isn't really spherical can create unusual results.

This projection allows seamlessly tiling textures to match at the seams.



Spherical Wallpaper

This applies a texture as if it were a sheet of paper you were trying to wrap spherically around the object. Let's say there were small bricks on this paper. The bricks would be the same size all over the object, but you couldn't count on things matching up at the seam, and you'd have to cut some of the paper off to make it fit. This points up the difference between this projection and the Spherical Shrinkwrap projection. With that, the bricks' size would vary across the surface, but they would match at the seam, and the whole texture would be present. However, with Spherical Wallpaper the poles should look OK if the view is more or less toward the equator.

The projection sphere is oriented so that you see the object's front through the front of the sphere. The size of the sphere is based on the largest dimension of the surface's bounding box. This dimension becomes the diameter of the sphere.

There is one seam, at the back of the sphere. The farther you go from the seam, the less the distortion.



Cylindrical Shrinkwrap

This shrink-wraps a Look in the shape of a cylinder onto an object. As you would expect, the sides get covered equally, but the top and bottom get the very top of the Look smeared across them.

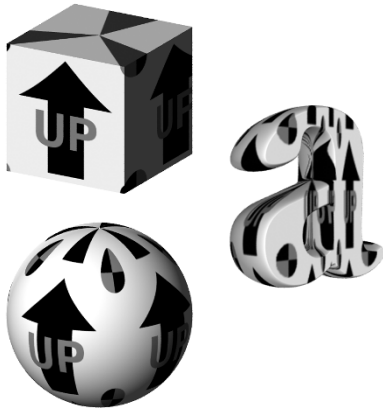
The cylinder is oriented so that you see the object's front through the front of the cylinder. The larger of the width and depth dimensions of the surface's bounding box determines the size of the cylinder on which the Look is wrapped.

There is one seam, at the back of the cylinder. While there is no distortion at the seam, there can



be distortion elsewhere on anything but a perfect cylinder.

This projection allows seamlessly tiling textures to match at the seams.

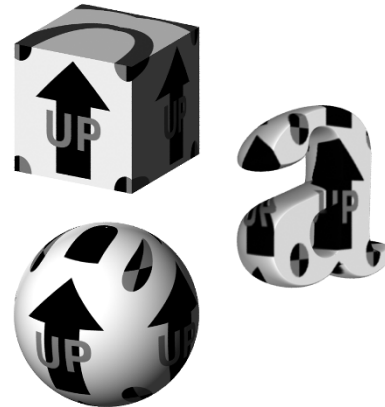


Cylindrical Wallpaper

This is like the Spherical Wallpaper projection, but the top of the texture is left “open” when wrapped around the object, creating a cylindrical shape. And here again, areas of the texture are kept constant at the expense of things matching up at the seam. Use this on objects that are taller than they are wide.

The cylinder is oriented so that you see the object's front through the front of the cylinder. The larger of the width and depth dimensions of the surface's bounding box determines the size of the cylinder on which the Look is wrapped.

There is one seam, at the back of the cylinder. The farther you go from the seam, the less the distortion.



Natural (st)

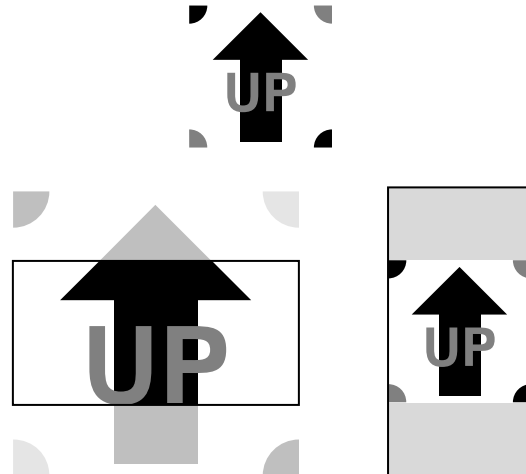
The shape of this projection is tailor-made to work as well as possible for the object. For example, with the natural projection of an “s,” a Look would be applied almost as if the projector itself were in the shape of an “s.” The Look would be “custom fit” to the object.



When you use the natural projection to apply a Look with a texture map made in the Look Editor, the map gets scaled automatically so that its width matches that of the surface to which it is being applied.

Since a texture map gets scaled so that it has the same width as the surface it goes on, its height may not match that of the surface (the choice here is between losing part of the image and distorting it to fit, and we chose the former). The aspect ratio of the map is always preserved. If you were to apply the example image to a patch that had a shape different from that of the texture map, you would still see the full horizontal extent of the map, though

perhaps not the vertical extent. If the patch's aspect ratio were greater than the map's, the top and bottom of the map would be cut off. If the patch's aspect ratio were smaller than the map's there would be extra space above and below the map. The illustration below shows the situation.



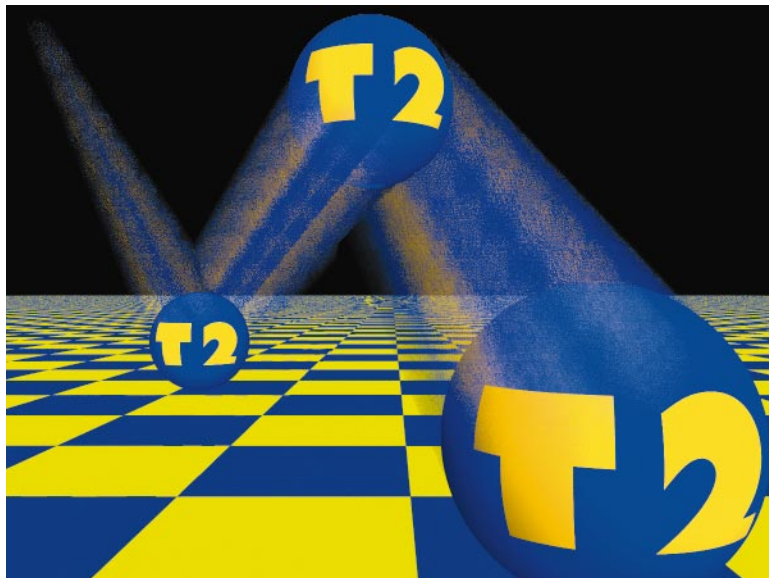


Image: Joy Gipson

Font: Gill Sans Ultra Bold

Build Method: Rubber Sheet, sphere
Style, solid letters and
background Textiling

Looks: Matte, yellow; Matte, blue;
Checkerboard Instance with
yellow and blue

Effects: Motion Blur

Lights: #5 50%, #7 100%,
Ambient 20%

Ball scaled and moved in 3 frames.
Rendered all 3 frames; composited in
Photoshop.