



# Getting Started with 3D in Photoshop

## 3.1. Workspace and the 3D Panel

When creating 3D designs, it is important to understand the complete workflow, as every step is critical in helping one complete and get to the final vision. The fundamental workflow is creating or obtaining the 3D model, adding/editing materials, adding/editing lights, adjusting shadows and other effects, and then finally rendering the scene. Of course, there will be quite a bit of back and forth between rendering your scene and re-adjusting the lights for optimal effects. Further, you can take your 3D layer and composite it with a 2D layer or add traditional 2D effects and touch-ups — one of the key benefits of working with 3D in Photoshop! This chapter will cover the essential things you need to know about working with 3D in Photoshop.

**Note:** For best performance, set your document up to screen resolution (72 ppi). If your final output is print, you can then scale up and re-render. This will optimize performance and speed when editing 3D.

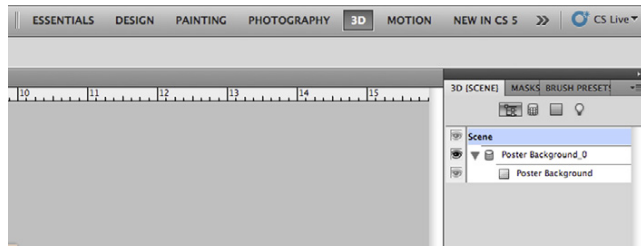


FIG 3.1 3D Workspace switcher. Select this workspace to open up necessary panels when working with 3D.

To get started, select the 3D workspace from the upper right corner of your application bar (Figure 3.1). This will open the important panels when working with 3D that will be referenced throughout the chapter.

With the 3D workspace selected, the panel in front view should be your 3D Scene panel (which you can also open from Windows > 3D). This panel has different views that dynamically update based on what component you have selected in your scene graph or in your Layers panel. The initial view will have controls that allow you to create or open 3D objects. This is described in further detail in the next section.

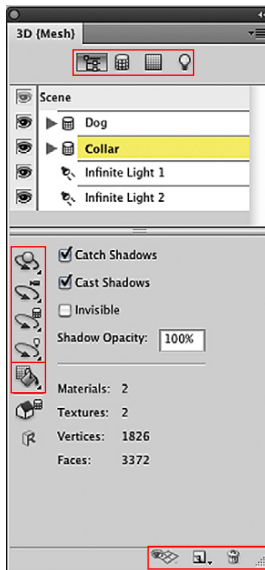


FIG 3.2 3D Scene panel.

If you have a 3D layer selected, the 3D Scene panel has four active buttons, or filters, on the top of the panel (Figure 3.2). The first button shows you your scene graph, or scene components (meshes, materials and lights) as well as the scene properties you can edit. The second button filters out your meshes and lists out all the meshes in your 3D layer, or scene, as well as Mesh properties that you can edit. The third button filters out your materials and lists out all the materials in the scene as well as Material properties that you can edit. And lastly, the fourth button filters out your lights and lists out all the lights in your scene as well as the Light properties that you can edit. Each view of the panel and its associated properties will be discussed further in later sections.

There are five tools sets on the left that are always available regardless of what view of the Scene panel you are in. These tools are movement tools for objects, cameras, meshes and lights as well as the Material Drop/Load Tool and the Select Material Tool. How to use these tools will be described in the following sections.

At the bottom of the panel there are three buttons. The first button on the left allows you to toggle overlays important for navigating around your 3D layer, or scene. These overlays are the 3D-Axis, Ground Plane, Lights and Selection. The button in the middle is used to create new lights (it will only be active with a light selected). The delete icon on the far right will delete whatever light you have selected in the scene graph.

**Note:** Overlays are dependant on OpenGL. Be sure that you have this option on in the Performance section of your Preferences.

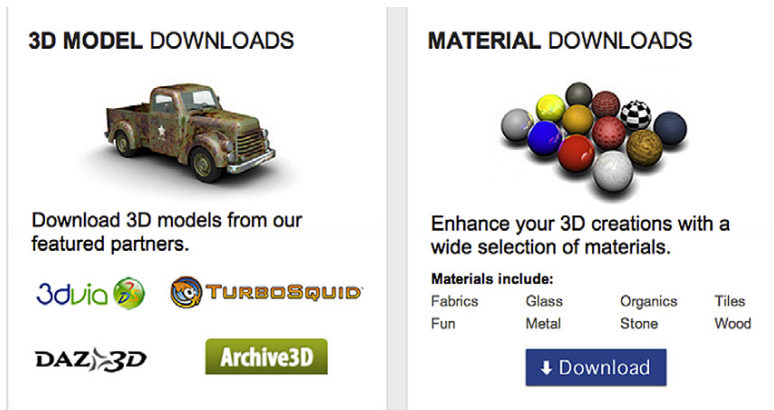


FIG 3.3 3D partner links and download for additional Material presets.

## 3.2. Importing 3D

You can either download models from 3D content providers and open them directly in Photoshop or create your own 3D models. There are many 3D content providers that have objects supported by Photoshop. It is recommended to work with Collada (dae) files but Photoshop also supports OBJ, KMZ, U3D and 3DS. For more information on format specifics, see Appendix A: File Formats. The easiest way to access these partner websites is by opening up the link found in the 3D menu under the command “Browse 3D Content Online...” This will bring you to a 3D landing page with useful links and content.

This book includes a plugin created by 3D Via that allows you to import 3D objects directly from their warehouse into Photoshop CS4 or CS5 Extended. You can download this plugin from [www.3D-in-Photoshop.com](http://www.3D-in-Photoshop.com) or directly from <http://www.3dvia.com/photoshop> (Figure 3.3).

## 3.3. Converting to 3D

Creating 3D has never been easier since the introduction of 3D in Photoshop. There are five ways now in Photoshop CS5 Extended to create real 3D geometries. You can access the commands to create 3D from the 3D menu or start from the 3D Scene panel [Figure 3.4](#).

### 3.3.1. 3D Postcard

The easiest way to create 3D is by taking a layer and generating a 3D plane, or postcard ([Figure 3.5](#)). With the Selected Layer(s) set as your Source, choose 3D Postcard and Photoshop will create a 3D plane based on the pixels in your

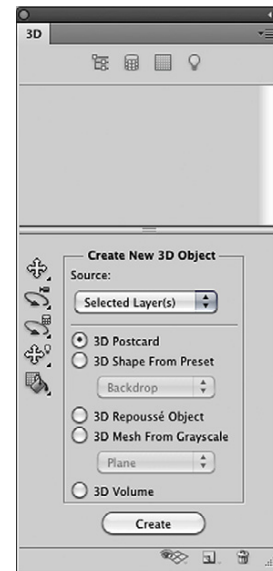


FIG 3.4 3D Scene panel: Panel view with 2D layer selected allowing you to create new 3D objects.

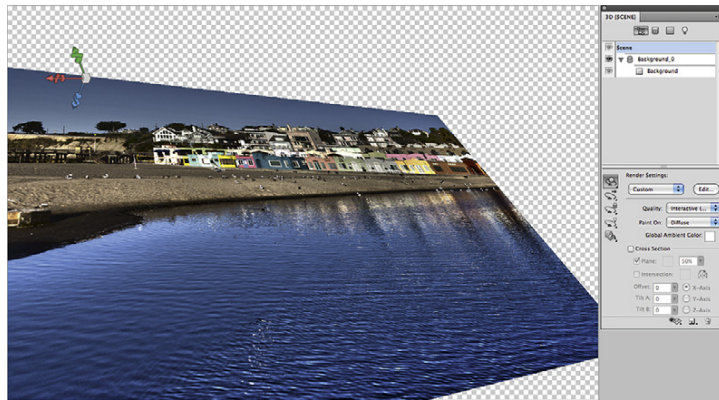


FIG 3.5 Converting a layer to a postcard.

layer. A postcard is also useful if you want to generate a plane to catch reflections, shadows, lighting, effects, etc. You can orient the plane perpendicular to your object and then merge the 3D objects together to a single layer. See Corey Barker's workflow in Chapter 9 for a tutorial on this.

### 3.3.2. 3D Shape from Preset

You can also take this layer and warp it around any 3D shape, or primitive, that Photoshop ships with. You can create your own 3D shape presets if you have a modeling application that exports Collada files. This is a great way to get started with basic 3D objects (Figure 3.6). See Bert Monroy's workflow in Chapter 8 for a tutorial on this.

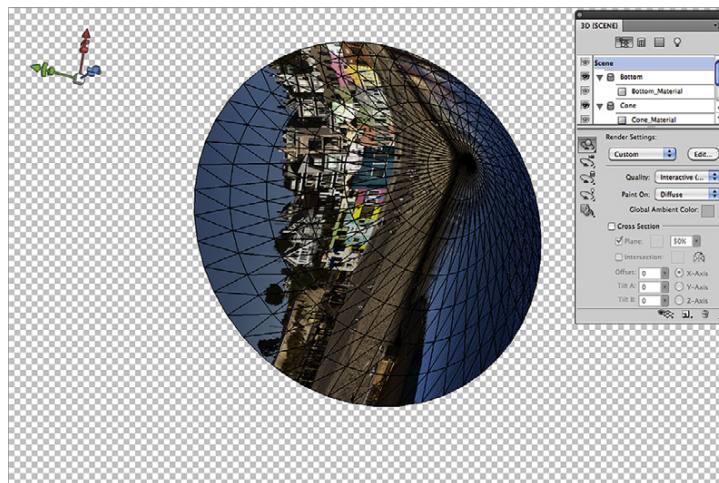


FIG 3.6 Converting a layer to a cone shape from presets (shown with a wireframe).

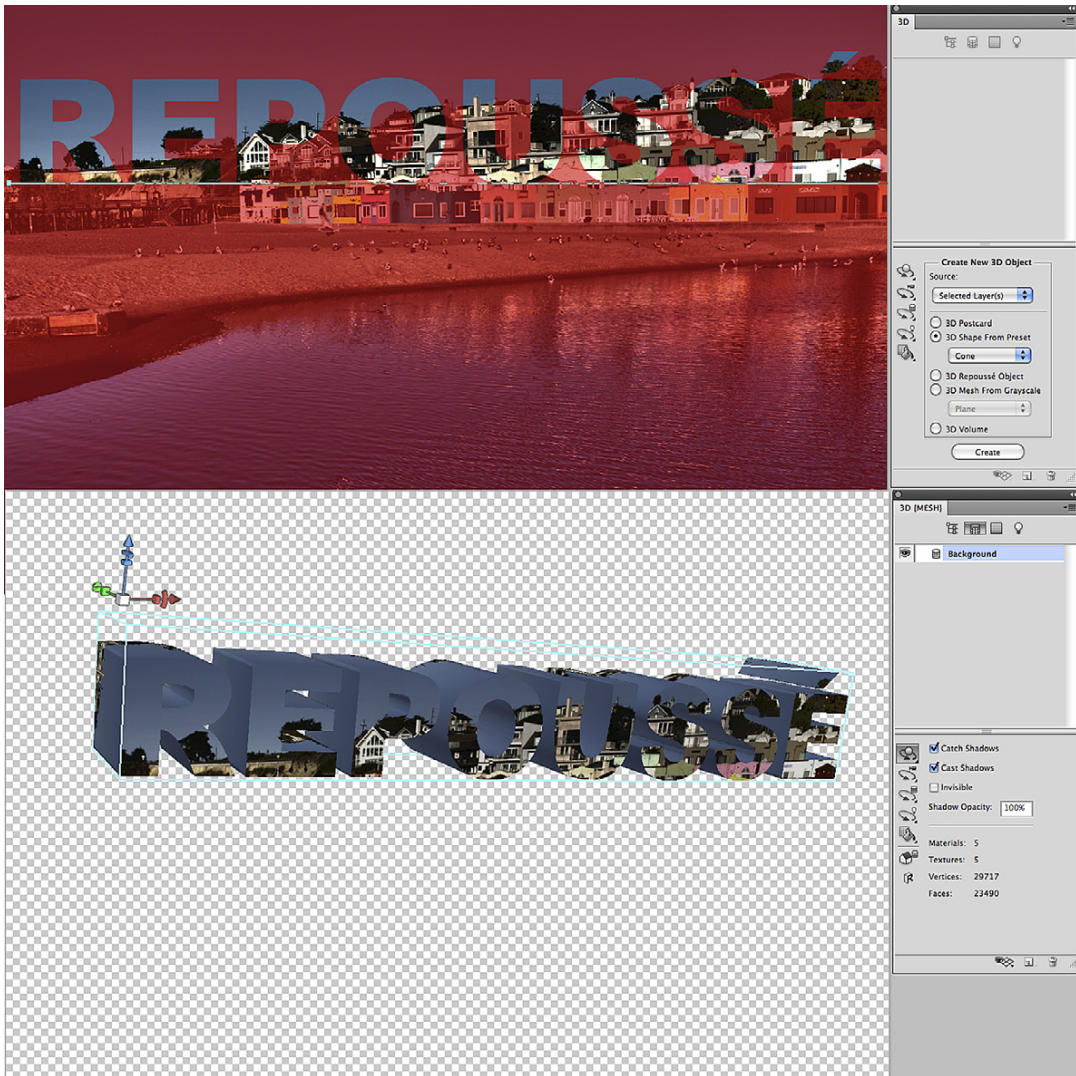


FIG 3.7 Converting a layer to a Repoussé object using the Type Mask Tool.

### 3.3.3. 3D Repoussé Object

You can take a selected layer (pixels, text or shape layers), selection or path and convert them to an Adobe Repoussé object (Figure 3.7). This feature allows you to extrude these layers to 3D geometry where many different extrusion parameters can be applied (i.e., twist, bend, bevel, inflate). For more information on creating Repoussé objects, see Chapter 7.

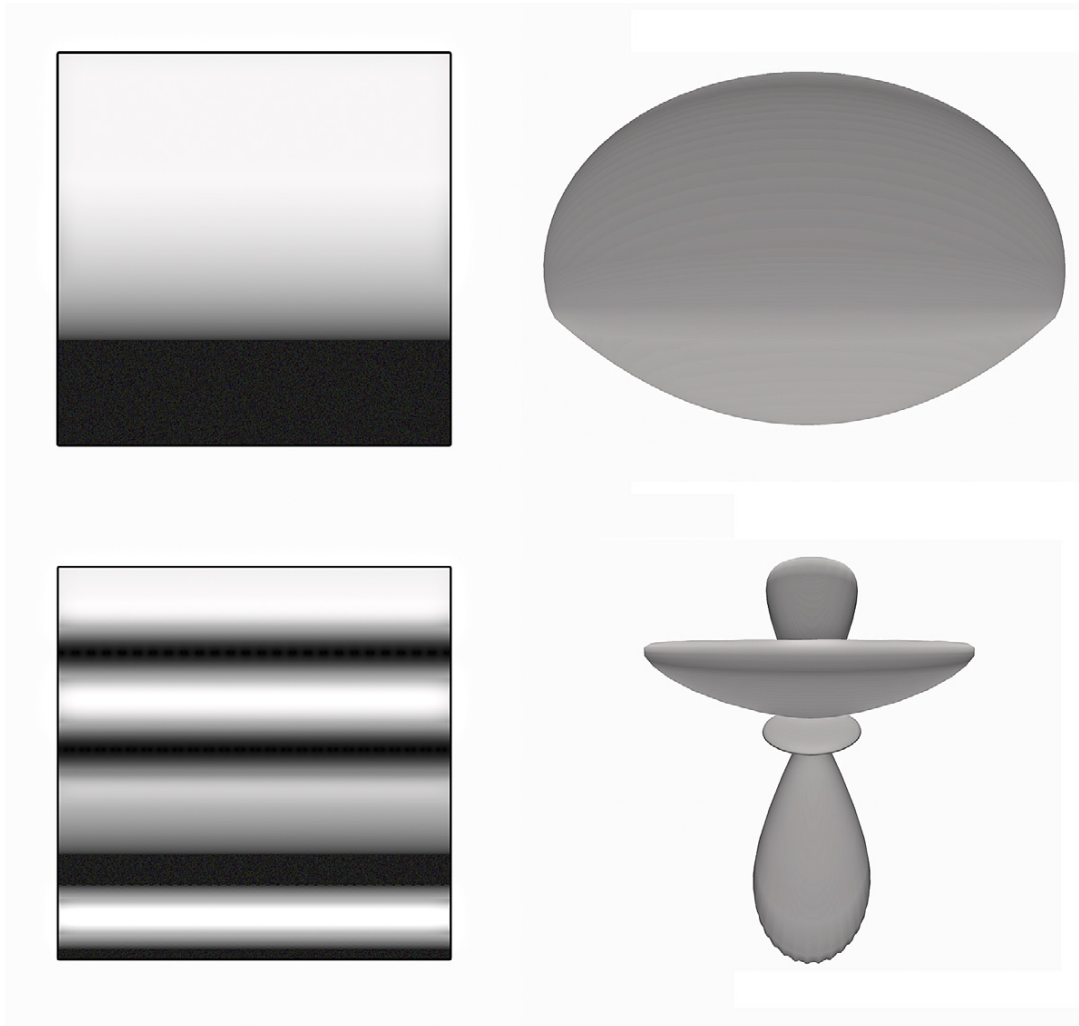


FIG 3.8 The images on the left are depth maps used to create the 3D objects on the right.

### 3.3.4. 3D Mesh from Grayscale

A 3D mesh can also be generated from a grayscale image, or map (Figure 3.8). Essentially, depth is determined by grayscale values where 50% gray is the starting plane and anything more black is pushed back and anything more white is pulled forward (in z-space). This is useful if you want to generate meshes with more precision; this is especially true if you use 16- or 32-bit images, since you now have pixel level control over the appearance of your mesh. Note that once created, you can open up your grayscale image and re-edit it and your mesh will be regenerated.

### 3.3.5. 3D Volumes

A 3D Volume is generated with two or more layers. The volume is an interpolation between layers and not real 3D geometry. This means that no mesh is generated and you cannot apply many of the 3D capabilities to it. This is primarily important for medical professionals working with DICOM images or frames where viewing a volume rendering is useful. However, there are interesting effects you can create by simply taking multiple layers (raster or vector) and interpolating between the pixels to generate a volume (Figure 3.9).

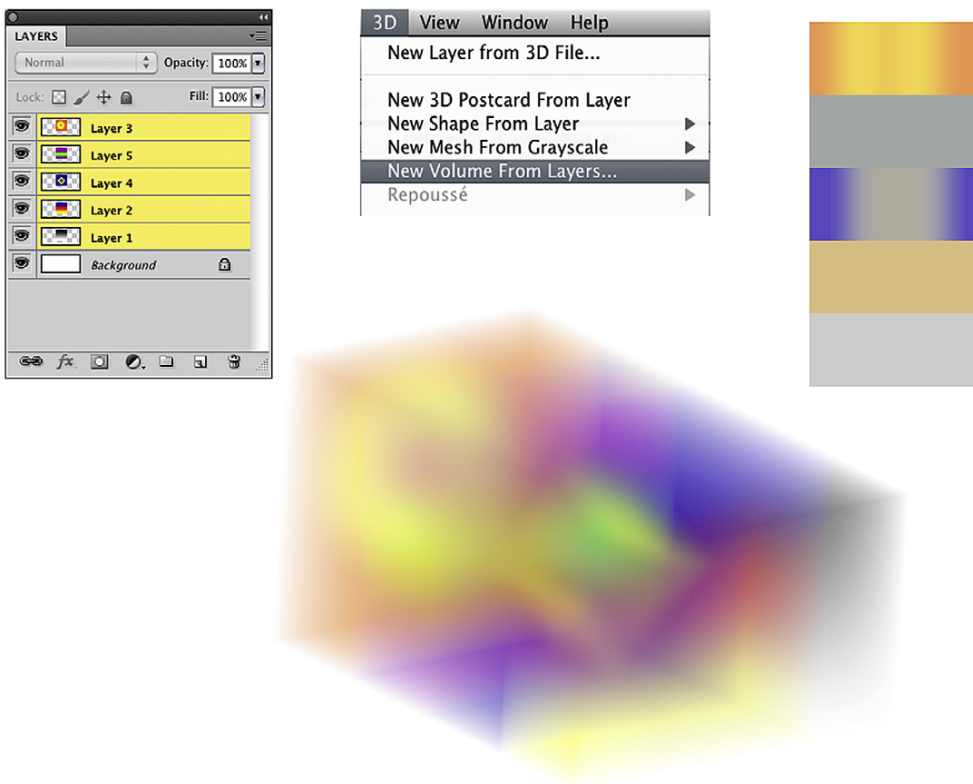
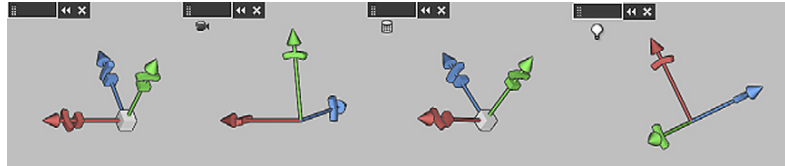


FIG 3.9 Image with five layers selected with a volume rendering from those five layers.

## 3.4. Navigating 3D

There are many 3D tools in Photoshop to help you manipulate your scene components (objects, meshes, cameras and lights) as well as tools that help with selecting and applying materials. The easiest way to manipulate positions of scene components is with the 3D-Axis Tool (Figure 3.10).



**FIG 3.10** 3D-Axis for objects, cameras, meshes and lights — upper left icon indicates component selected and pull on any handle to manipulate the object (i.e. roll, scale, pan, etc.).

With the 3D-Axis, you can rotate, roll, scale/pan, slide/walk 3D objects, meshes, lights and cameras depending on what tool you have selected in the toolbar or in the 3D Scene panel. An icon in the upper left of the 3D-Axis will indicate which component you are adjusting and the yellow handle will appear when adjustment that type of movement. You can make a variety of adjustments (rotate, roll, scale/pan, slide/walk) to the component you're manipulating without changing tools — simply by interacting with different parts of the 3D axis.

The 3D-Axis Tool is dependant on OGL. Be sure you have this option on in the Performance section of your Preferences.

You can also individually select scene component movement tools (i.e., Object Rotate, Camera Walk) from the toolbar, from the tools in the Scene panel or from the Options Bar of any 3D tool selected.

All tools can be assigned shortcuts. By default the 3D Object Rotation Tool has the keystroke K, and the Camera Rotation Tools have the keystroke N. Set custom shortcuts from Edit > Keyboard Shortcuts.