



# Graphics for Grunge

by *Donovan Rittenbach*

It is one of the great paradoxes of the digital age that as we gain the ability to create perfect worlds without blemishes, we toil to make those synthetic places look old, dirty, and weathered. Back in the good old days, you could go to a movie theater and tell what was CG and what wasn't. I remember when you could look at a VRML landscape and say "cool," rather than "lame," and when you would see funky psychedelic patterns and think "bitchin', man," rather than "Kai's Power Tools." But times, they are a-changing.

The digital renaissance must now include organic complexity—a line has been drawn between artists and filter fiends. Artists, especially those in the special effects business, no longer want their work to look computer generated. They want work to be artistically created. Any monkey can push buttons and add filters to layers, but an artist adds individual vision to a project. The quality and originality of that vision determines whether clients return for more design work or look elsewhere.

That's one of the reasons we appreciate grunge. Not grunge only in the sense of that early 90s music from Seattle, but grunge as in that stuff behind your stove: dirt. If you want a great reference for grunge, check out the work of Dave McKean at [www.vivisect.org/dreamline](http://www.vivisect.org/dreamline).

To me, grunge means "work, skill, and sweat was put into this." You don't see the grunge effect on everyone's reel because it's not a filter that you can buy. With this in mind, let's explore how to make computer-

**Your graphics need some dirt to avoid appearing too clean and synthetic. Use these Photoshop and After Effects techniques to add a little grunge to your 2D art.**

generated images look less machine made and more organic, dirty, and disintegrated.

Weathering is a texture computer-generated objects don't have. They don't have rain to make them rust, waves to pound them every day, or a sun to make them crack. That's where grunge comes into the picture. The techniques in this article are weathering effects for a world that will never experience a storm. At the very least, they are tricks to help you catch your client's eye.

This article focuses on the use of grunge for 2D images. We won't be addressing 3D objects, but these techniques are applicable for 3D imagery. In a simple example, the techniques will help you compose great-looking textures for your 3D models. ►

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## Grunge brushes

We start our dirt journey in Adobe Photoshop, where we find three tools particularly good for grungifying: the paintbrush, smudge tool, and Layer Options window.

The fundamental tools for creating grunge effects with the paintbrush and smudge tool are grunge brushes. These brushes let you simulate rust, mold, chipping, cracking, and many other forms of weathering you expect to find in the real world.

My set of brushes was given to me by Brian Pope. He used them to help create the CD-ROM game *Bad Mojo*, an outstanding example of grunge imagery. I added some of my own brushes to his collection, and I invite you to use and share them with your friends.

I've produced some grunge brushes for you to start with. If you work on a Mac, go to the Reader's Corner at [www.dv.com](http://www.dv.com) and download the brushes. If you're on a PC, download the "brushes.tif" file (see Figure 1), and make your own as you do

with any custom Photoshop brush. On a PC, copy and paste the TIFF file's single layer into a new document's alpha channel. Sharpen the alpha channel—and therefore the selection—with the brightness/contrast controls. Then choose your alpha channel as your selection, and load the selection.

For those of you planning to make your own grunge brushes, here are some tips and ideas. Always compose brushes in black and white. White easily eats away black, so you can control your erosion. Also, you may want to colorize my grunge brushes, and creating black-and-white brushes lets you see the contrast values first before you colorize them. It's like a basic photography class, where the first semester is spent shooting on black-and-white film. After all, contrast can be far more important than color.

Clone the grunge file to a new layer using the new option in Photoshop 5. Bump up the contrast, then eat the edges away with a grunge brush, and make the resulting image into a new brush. Leave no hard edges. In realistic grunge, you shouldn't be able to tell where the brush begins and ends.

Keep your brushes small. Large grunge brushes don't offer any advantages and are

more difficult to control. Make wild and wacky selections with your lasso tool, fill the selection, delete random tidbits, and then blur slightly.

Find a picture with a rusted bolt or rivet. Select the bolt using Photoshop's QuickMask function, and make the selection into a brush. You can paint bolts or rivets with the tap of your brush.

To create moldy splotches, make several closely spaced, big, fat, dots with your pencil tool. Make sure antialiasing is off, and soften the dots with a bit of Gaussian blur. Go back into each blurred dot with a smaller-tipped brush and put a solid, fat, white dot in it. Blur that new dot with one-fourth of the original dot's blur. You want just enough blur to blend the two dots. You now have a nice mold brush, with dark black spots of dense mold and light fuzzier spots where the mold is less dense.

Vary the brushes' opacity as you paint. You can change opacity by entering different numbers on your keyboard as you paint, or by varying the pressure of your stylus on your graphics tablet. Paint in different modes, and put your layers on top of each other. Use adjustment layers. Experiment.

## Grunge maps

To form good grunge, you need dirty backgrounds and texture maps. While there are many sources for grunge maps, I especially like the CD-ROM collections from Marlin Studios ([www.marlinstudios.com](http://www.marlinstudios.com)). The site has several free maps available for you to download.

My favorite Marlin Studios disc is the \$149 *Seamless Textures2—Rustic Exterior Surfaces*, which has over 300 tileable photographic textures and corresponding bump maps.

The bump maps can be used as specular, reflection, or whatever other kind of map you want. Specular and reflection maps let you simulate the highlight fluctuations on real weathered surfaces. Working with specular maps helps you increase the realism of your grunge.

## Photoshop grunge techniques

Now that we have our grunge brushes and maps, we'll start to experiment. Experimentation is always important—

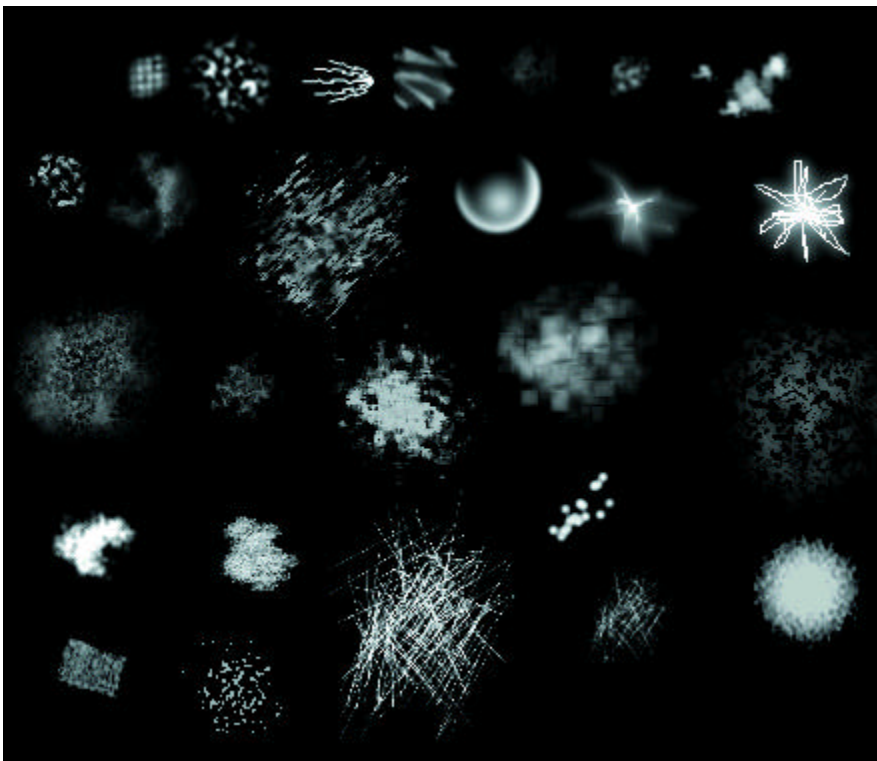


Figure 1—This TIFF file, available at [www.dv.com](http://www.dv.com), will help PC users create their own grunge brushes for Photoshop. Mac users can download my prebuilt brushes.

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you can develop new approaches and push the limits of your technology. I get many of my design ideas from messing around and discovering a look that I like.

**The smudge tool :** Create a text layer, and render it if you're using Photoshop 5. Tap the "R" key and select one of the grunge brushes. With your brush, go to the bottom of the text and smudge it. Remember that you can smudge with different strengths by changing your brush's opacity settings, or by varying the pressure on a graphics tablet. With the smudge tool you can get effects like running or streaking paint. Figure 2 shows an example of what I did with the smudge tool set to a grunge brush.

By using the bolt brush I mentioned earlier, you can simulate the look of rust seeping from your text. Simply duplicate the text layer, smudge the bottom layer, and colorize it. Then tweak opacity as needed to blend the two.

**The paintbrush :** Start with a new layer of text, and render it if needed. Tap the "D" key to set your colors to default, then tap the "B" key and select a grunge brush to paint with. Keep in mind that the only variables that affect your work here are the luminance values. Changing these values gives the impression of differences in the surface of your text.

For example, make some medium-yellow text. Select only the text on your layer so that when you paint, you'll be painting only in that selection. Hide your



Figure 3—With the right colors, you can simulate mold.

selection so it isn't distracting. Vary only the opacity and paint your text with a grunge brush. You'll notice areas that look like highlights and sections where your text edges appear to have been eaten away.

I usually colorize my grayscale grunge brushing. One of the reasons is that it only affects grayscale values, not pure white or black values. If you're working with either white or black, they won't colorize, but everything in between will. In Figure 3, I colorized my text with a dark olive-green brown to simulate mold.

In addition to eating away the edges of text, these techniques provide a nice way to eat away the edges of your video—use these tools to make a grunge luma or alpha matte. If you don't want to use prepackaged distressed edges, why not make some yourself?

Another idea is to hit the "Q" key and bring up QuickMask. At this point, you're

painting a selection. Be creative. For example, paint a selection with your grunge brushes, and then blur it to feather its edges. When used with the Offset filter, this technique helps you make backgrounds that tile seamlessly. You can either paint with the cloning tool or use this method to mask and fill weak spots.

**The Layer Options window :** Next, let's open up a weathered texture. If you don't have any, pick up one of the freebies from the Marlin Studios site. Choose a map that shows corrosion, contrast, and fractal line edges. Make a text layer. This time, double-click your text layer in the layers palette. The Layer Options window should pop up (see Figure 4).

At this point your text is a uniform color, so tweaking the sliders for the top layer will do nothing. If you play around with the underlying layers' compositing



Figure 2—Photoshop's smudge tool and a grunge brush can apply the look of streaking paint.

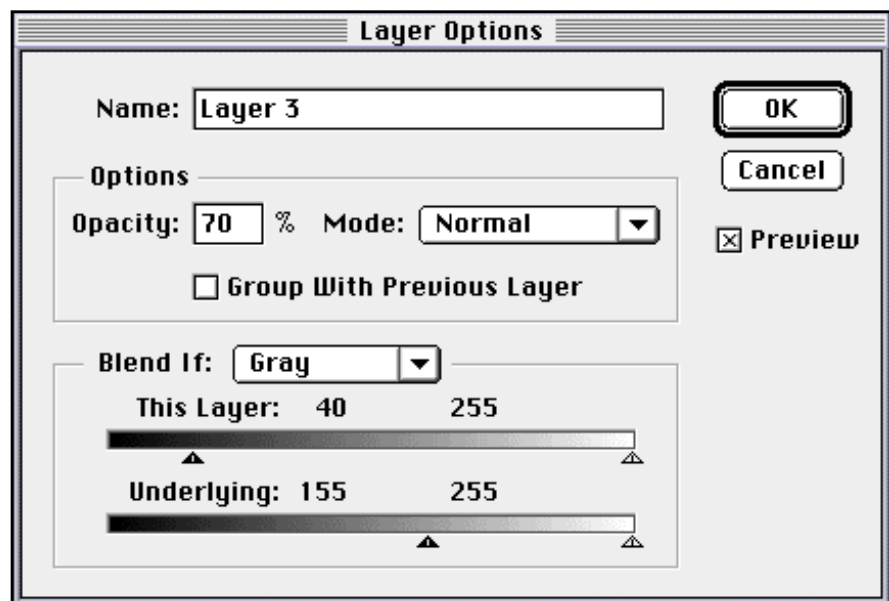


Figure 4—Photoshop's Layer Options window gives you the tools to create weathered text.

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controls, you'll see your text is corroded in what seems to be a natural way.

As you move your underlying layer around with the move tool, notice the changes in your text composition. These changes give you a high degree of flexibility. If you require more erosion, try nudging or dragging your grunge layer.

Now select your text and inverse the selection. Change the layer you're operating in to the underlying grunge layer, and delete everything except what's underneath your text. You now have some very cool grunge text. Collapse these two layers together.

By creating an alpha channel of this file, or by using Puffin Designs' free Knoll Unmult filter ([www.puffindesigns.com/support/free\\_form.html](http://www.puffindesigns.com/support/free_form.html)), you can compose a nice little grunge alpha channel, which is particularly useful when you add bevel alpha and drop shadow to that layer (see Figure 5).

## Film junk

If there is one thing you'll find in grunge art, it's dirt, scratches, and fibers. To add these to your motion graphics work, I can think of no better filter than DigiEffects' Aged Film filter, part of the \$289 Aurorix2 collection of Mac OS After Effects plug-ins or as a \$149 standalone plug-in for Windows versions of Photoshop, Premiere, and DeBabelizer ([www.digieffects.com](http://www.digieffects.com)). DigiEffects makes many cool filters, but Aged Film caught many people's fancy.

Unfortunately, I often see Aged Film used poorly. Some artists slap it on a commercial with the default values for graininess, gray tint value, and scratchiness. Aged Film is capable of much subtler effects, so the least a designer can do for a client is change the plug-in's settings to best match the needs of a specific project.

To better understand how to use the Aged Film filter, check out old film footage. Rent the oldest piece of film you can find. Notice how the cracks, hair, grain, and scratches stand out, but not necessarily in the way you expect. For example, I've seen some old film that's bluer than the expected yellow.

You may also notice flicker in old films. It's a strong effect. When I add flicker to projects, I make it bold enough to draw attention. We see so little flicker in sophisticated electronic CRTs that it's a nice touch.

Another way to add junk to your project is with Final Effects' SE Scatterize, part of the \$995 Final Effects Complete package from ICE ([www.iced.com](http://www.iced.com)). If you're working on a title, first duplicate your text layer. Apply a generous dose of Scatterize to your lowest text layer. Adjust your settings to "randomize every frame" and "vertical." If your text is dark and your noise is white, a nice static glow surrounds your letters (see Figure 6).

## Twitch, grunge's cousin

When I look at great grunge work, I become unsettled. I want to twitch. Adding irregular twitches to your work is another way to make it appear less synthetic and more organic. Here are a couple of ways to add some twitch to your compositions.

The After Effects Production Bundle includes a tool called the Wiggler. The Wiggler produces stylish effects that definitely get attention. The Wiggler can make any parameter of an After Effects composition, well, wiggle. I like to apply the Wiggler to an object's position, opacity, and rotation. The Wiggler makes most anything look good and grungy.

In a recent project, I wanted to add flicker to a rotating lion that was part of

a seamless loop. My composition was about seven seconds long. I needed plenty of luminosity fluctuation, so every half second I set a keyframe with a random opacity value. Then I applied the Wiggler to all the keyframes. Within seconds I had wonderful flickering lightbulb effects.

If you want a background layer to contrast with your wiggled text, you might want to try this technique. Start with some dark, grungy text created with the Photoshop techniques in this article. In After Effects, apply the Wiggler to the text layer's positional keyframes. Duplicate that layer and offset it by several pixels. Bump up the new layer's brightness and contrast to wash it out. Then add at least 20 pixels of motion blur to the back layer. Set keyframes for the length and direction of the blur, and apply the Wiggler to both settings. You now have a nice twitchified drop glow for the grunge text you created earlier (see Figure 7).

You can also generate twitch effects with Adobe's free Path Text AE plug-in. Down at the bottom of the Path Text effects controls, you find four different jitter settings. If you input a number, Path Text will randomly select baseline, rotation, kerning, or scale settings. This makes for some really wild text effects. These ideas are only the ►



Figure 5—Bevels and drop shadows are still okay for grunge text.



Figure 6—Add a staticky glow around text with the SE Scatterize filter in Final Effects.



Figure 7—Adding a drop glow to grunge text helps it stand out.

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tip of the iceberg. It's hard to go wrong adding time-based dirt such as twitches to your projects, especially if you apply it to a jiggled motion blur.

## Blur

When examining the work of a grunge master like Dave McKean, you immediately notice his liberal use of blur. In a digital age where everything is in focus, it's nice to have things blurred. But there's more than one kind of blur. I see many projects using Gaussian, Fast, and Motion blur, but I don't see enough using Compound blur.

Compound blur works off a grayscale map, which allows selective blurring.

Where the grayscale map is the blackest, the image is the sharpest. Where the map is the whitest, the composition is the most blurred. To get an idea of how Compound blur works, let's build a simple project.

In After Effects, start with a text layer. Next, make a solid that covers your whole comp, and apply a radial ramp effect to that layer (see Figure 8). Set up some keyframes at the beginning and

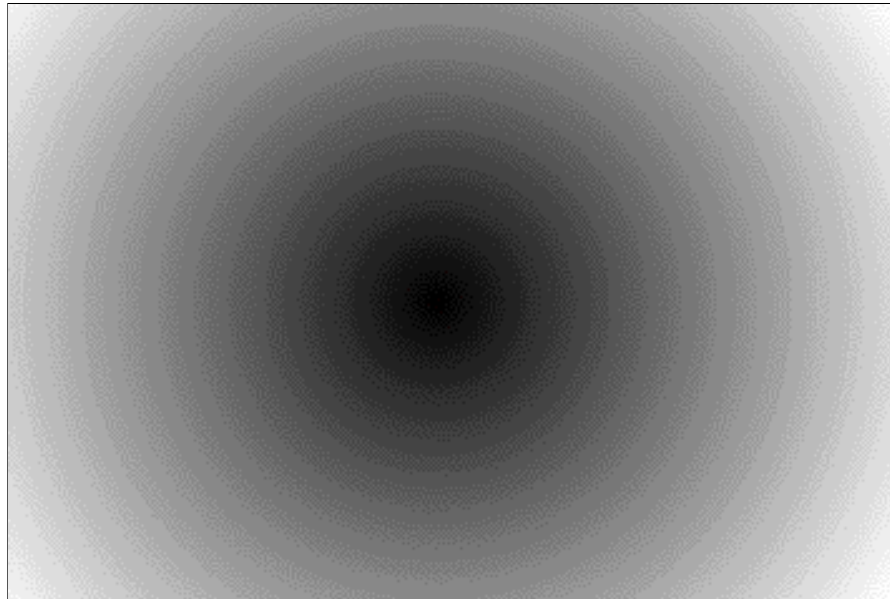


Figure 8—Add a radial ramp to start creating a Compound blur.



Figure 9—Compound blur will make your text move into and out of focus.

**Grunge techniques provide weathering for a computer-generated world that will never experience a storm.**

end of your comp. Then animate the ramp moving from right to left across your screen. Pre-compose and apply Compound blur to your text layer. Now use your ramp composition for its blur values. Shut off your ramp layer. Render your movie and see how parts of your word move into and out of focus (see Figure 9).

Compound blur also makes a nice border. If you use a blur as a border, add some hair or noise on top of the blurred section. You can create a look like a fogged windowpane. Because the hair is in focus, it looks closer, adding a sense of distance.

For a fun, artistic experiment, take a starkly lighted picture of two people, one close to the camera and the other far way. Using Compound blur, fuzz out everything in the image except the two faces. Maybe as one speaks, his mouth clears and the rest of his face fogs. The other person's ears might be clear, but the rest of his head is out of focus. As one of the figures shifts uncomfortably, wringing hands would come into focus. You get the idea. Compound blurs let you produce a depth of field to direct and hold the attention of your viewer.

Unless you have an ICE board, however, you can grow old waiting for blurs to render. To avoid as many long renders as possible, I made some blur stock footage. I took a solid image, animated its mask from a long rectangle to a tall rectangle, set keyframes at every second, and then applied easy velocity curves for a gentle sense of inertia tweaking. I applied a strong Motion blur and let it render for five hours at full resolution.

To break up the blur, I imported a grunge layer I created with a single frame of a solid and DigiEffects' Soap Film. At default settings this makes an impromptu, moldy, luma matte. When I rendered the blurred footage with the Soap Film luma matte and some more blur, I got some wispy background noise to add texture to future compositions (see Figure 10).

## Grunge mattes

When you look at well-aged photographic edges, you see tape, mold, fibers, and scratches. Pieces of this and that are abundant in the margins of the real world. Although the Aged Film filter adds some of this debris to your grunge graphics products, it can't add all of it. ►

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To compose worn edges, use the same grunge brushes that you used in the first half of this article. The brushes produce excellent borders.

Let's take a look at a project where I used After Effects to make 3D text with eroded borders. First I created my text. Then I imported a dirty sidewalk grunge map into a new composition. Next I made a new solid, and applied the Path Text effect to it. I scrolled down to the bottom of the Path Text effect and put some scaling and rotational jitter on my text. I made my grunge layer a luma matte of my text layer. But the result was too fine, and not the kind of chunky erosion I wanted.

I bumped up the grunge layer's brightness and contrast levels. When I reached a level I wanted, I made the layer visible, rendered it out as a file, then reimported it. I used my newly enhanced contrast layer as a luma matte.

Why did I go through the extra render/import cycle? Because it kept me from rendering the brightness/contrast filter every time I made a new movie. On small jobs the time savings was negligible. But on those long renders, it really paid off.

At this point I had text with a luma matte applied. Because the luma matte was in the effect, the text appeared beat up and also had an alpha channel. I pre-composed both layers, and chose to bevel the alpha. Suddenly I had cool 3D text that was eroded and jittery. I added a little of Final Effect's SE Scatterize filter behind the text to give it a fuzzy halo, and got what you see in Figure 11.

Because I deinterlaced this image in Photoshop, it appears a bit jagged in print, but looks great on an NTSC monitor. And in the end, it's how it looks on video that matters. If you're tired of antiseptically clean design, make sure you're the one adding the dirt. **DV**

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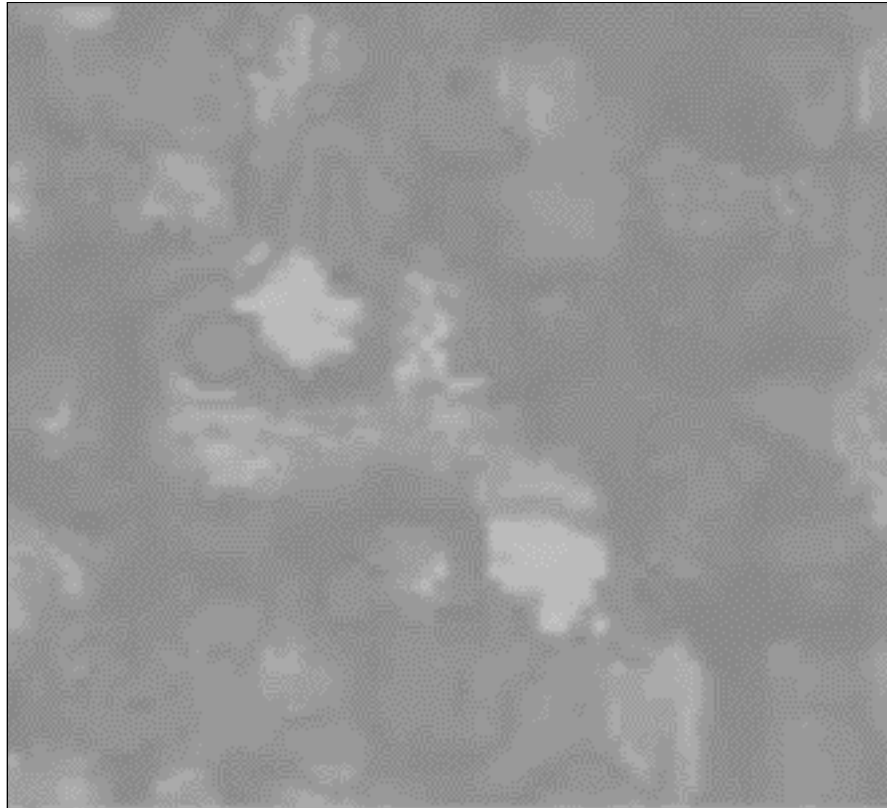


Figure 10—Using DigiEffect's Soap Film filter as a luma matte and adding some blurred footage gives me wispy background noise that I can use as a texture.



Figure 11—Adding a beveled alpha channel to the other techniques lets me create grungy 3D text.

For more information on the products mentioned in this article, please go to the Data Vault at [www.dv.com](http://www.dv.com).

After Effects Production Bundle	Adobe	DV#228
Photoshop	Adobe	DV#203
Aurorix2	DigiEffects	DV#229
DeBabelizer	Equilibrium	DV#230
Final Effects Complete	ICE	DV#231
Seamless Textures2	Marlin Studios	DV#232
Knoll Unmult AE	Puffin Designs	DV#233