



Rangefinder Magazine

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First Exposure: Corel Bryce 4.1 by Jack & Sue Drafahl

In past articles, we have reviewed various 2D color digital image-editing software programs. We now continue by featuring a program that not only works in 2D (x and y), but 3D (x, y, and z) and even the fourth dimension of time. Special effects that were once restricted to Hollywood are now all within your reach, thanks to a powerful image editing software program called Bryce. This leading edge technology, with its creative controls, allows you to design virtually whatever you can dream.

Our first introduction to Bryce was back at version 2, under the MetaTools banner. After using the program for a short time, we knew this was the program for us. It evolved to Bryce 3D and Bryce 4 while under the new company, MetaCreations, and then we heard it had been sold. The Corel Corporation, famous for Corel Draw and Word Perfect, has now included Bryce as part of their software line. Bryce 4.1 remains intact, and has already been improved to blend with the other Corel imaging programs.

2D picture of hand was imported into Bryce and treated as a mountain terrain. To fully realize the potential of a 3D program, you first need to understand 2D. Two dimensional programs use an x and y axis which provides an image that is flat and lacks depth. Although many of the more powerful 2D programs give the appearance of 3D, in reality, they are still x and y programs. Bryce 4.1 goes a step or two further and gives you two additional dimensions.

Cover created for Photo Lab Management magazine using Bryce. Mountains were created with Bryce object creator. 2D pictures of seagull, boat, and fish were imported into Bryce. Water and sky created in their respective editors in Bryce. Notice 2D pictures reflect in water and throw shadows into scene.

The third dimension is the z axis, which provides the 3D effect in a scene. Each object can be rotated, scaled, stretched, or moved within the scene. You can also construct objects from scratch by loading in basic shapes such as circles, cubes or cones and mixing them together to make some very complex and unique objects. It is even possible to coat the objects with hundreds of realistic materials such as metal, plastic, water, rock and mountain terrain. If you can't find the material you want, you can load one that is close, use the material editor to make modifications and save it as a new material. Bryce's 3D library also offers a variety of images for you to load, such as airplanes, insects, buildings, trees, mountains, sky, water or household products. If you search the web, you will also find dozens of pages with free Bryce objects for your use.

The fourth dimension is time itself. Objects in a scene can now be moved along a path, or moved within the scene to create the passage of time. The bottom of the edit screen doubles as a selection menu and a timeline. When you switch to the timeline mode, you are given a starting and ending time. As you move along the timeline, you can move the camera along a path, move objects in the scene, or move the sun across the sky to achieve time travel.

A 2D image of a dive boat in Fiji called the NAIA was masked in PhotoShop 6 and imported into Bryce. Sky, sun, clouds, and water was created with object and atmosphere editors in Bryce.

To open a new image, you start at the top of the Edit screen where you will find three groups of controls called Create, Edit, and Sky & Fog. When you select the Create function, more than a dozen basic object shapes can be selected, or you can load in edited shapes from a special objects menu. As you build your new 3D world, you can add water,

Features

[The Rams and the Wedding Photographer](#)

[Ilfopro Photographer's Association](#)

[The Home Office Deduction](#)

Columns

[Insight: On the Cover](#)

[First Exposure](#)

[Digital Photography](#)

Departments

[Problems & Solutions](#)

[Back to Archives](#)

surface terrain, mountains and clouds. You can then combine and alter the basic shapes to evolve into 3D objects. A full lighting studio is included so you can add lights that have variable intensity, fall off with distance, and you can even control the beam angle. Real world effects apply to each object that is added to the scene. As you add an object, it takes on the lighting in the scene, and throws its own shadows. Objects over water reflect on the surface, while objects under the water's surface take on the water's distortion.

You can also import 2D pictures with an alpha channel mask and incorporate them into a 3D scene. The Edit menu, at the top of the screen, lets you manipulate both 2D images and 3D objects with dozens of controls that vary reflection, transparency, material layer, elevation, and object resolution. In the final rendering, Bryce has a process called AntiAliasing that provides a clean edge between the 2D object and its 3D world. If the 2D image has shadows in a certain direction, you can easily change your 3D world to match them so they blend together.

Special effect created for a digital slide show (International Scuba Diving Hall of Fame) Film strip was created in PhotoShop 6 and imported into Bryce. Transparency of water was set high so that you can see the film underwater. In the final effect the film moved from underwater to the surface, showing each award winner as the film passed by the camera.

One of the most creative aspects of Bryce is the ability to use 2D images to create 3D shapes. When you import any 2D file as a shape, Bryce will convert it to a grayscale image and use it as the structure of the 3D object. Light tones create high points, while the dark tones are the low points in a 3D object. For example, you can take a portrait of someone's face, and use it as the geometry for creating a mountain. The result is a mountain of rock that takes on the features of that person's face. So you see, the creative potential with Bryce is almost limitless.

As you wade through some of the more creative controls, you will find some very high-tech functions such as satellite mapping. You can load Digital Elevation Maps (DEM) from USGS (U.S. Geological Surveys) off the Internet, and create your own maps of any region in the United States. Simply import it into Bryce 4.1 and it will duplicate the land mass in 3D. Pretty easy, huh?

The Sky and Fog menu is what puts the whole Bryce world together. Appropriately called SkyLab, the editor can control the shape and type of clouds, how the wind moves them across the sky, and the position of the sun and moon in the scene. You can even adjust the sun so that as it sets, it gives the illusion of increasing in size. With SkyLab, you can add different levels of fog, haze, and even rainbows. Each of the sky effects is extremely realistic and change as the sun moves throughout the sky. If you want to create your own space spectacular, Bryce has all the controls to add your own solar system, complete with sun, comets, stars, and planets. You can add depth to the surface of each planet, or even add an atmosphere, if you like.

Screen shot showing Bryce image editors for "Reaching" shot above. 2D and 3D editors across the top of the screen, and viewpoint controls on the left side of the screen.

As you put these scenes together, you can use the view controls to move your point of view, change the camera angle for more perspective, or render a test file to see how the image looks at that point in time. Final images can be rendered at any resolution, but the render time takes longer the higher the resolution. Render time can be as little as a couple of minutes, or a full day for very complex high resolution images, dependent upon the speed of your computer processor.

2D import editor in Bryce. Editor show mask created in Photoshop 6.

We love Bryce for creating our magazine covers. We no longer have to worry about the intricate techniques of creating the image, but rather suffer coming up with creative ideas. If you really like image editing and want to expand your creativity, consider the world of 3D. It can be your new extension into the new digital world and Bryce 4.1 is the software program that can take you there. For more information, visit the Corel web site: [www: corel.com](http://www.corel.com). List price of Bryce 4.1 is \$199.

Terrain editor showing how you can control the object matrix.

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