

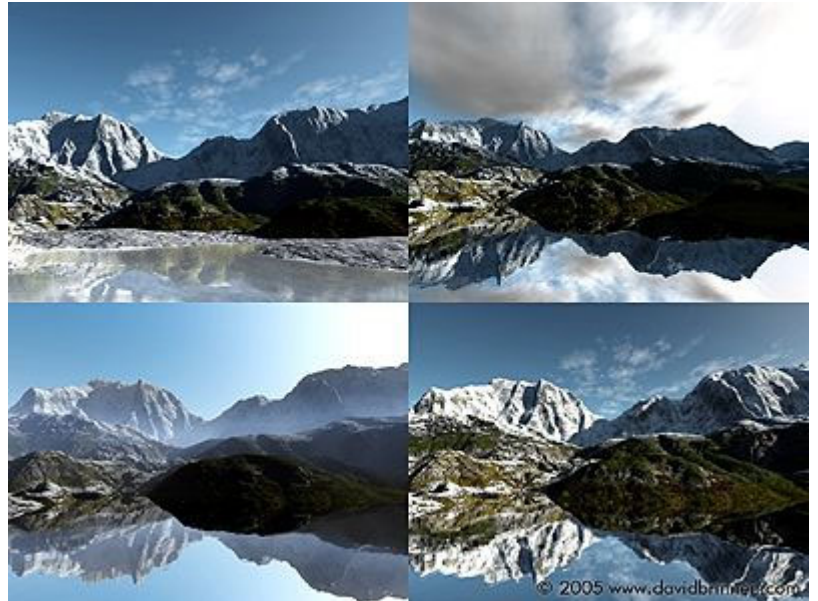
## BRYCE 5 Mini Tutorial

### Additional Sunlight for Colour Adjustments

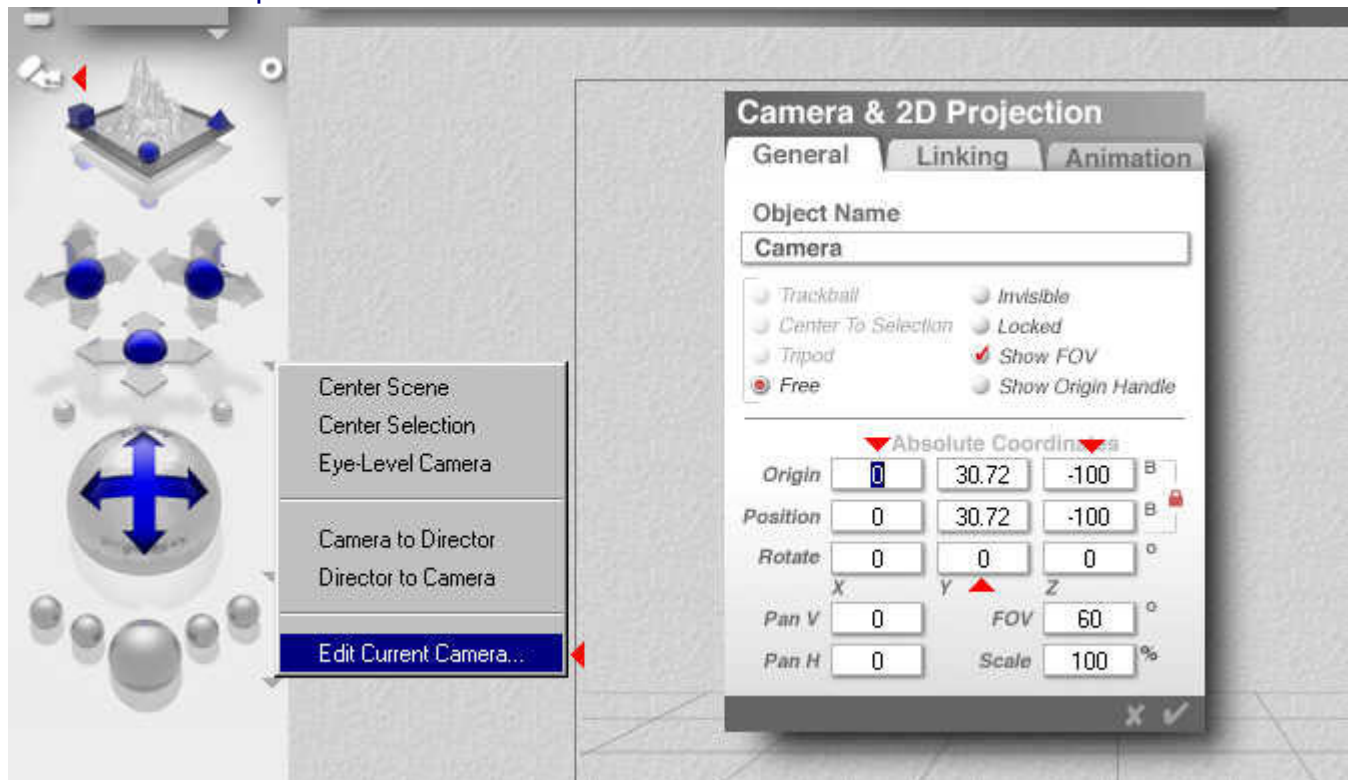
by **David Brinnen**  
March 2005

HTML Version  
by **Hans-Rudolf Wernli**

Different lighting: Frozen Shore >



In this tutorial, an additional light source will be placed exactly in front of the sun. This is a bit tricky. Therefore, the camera will be moved to a position from which adjustment and position from the sun are easier to comprehend.



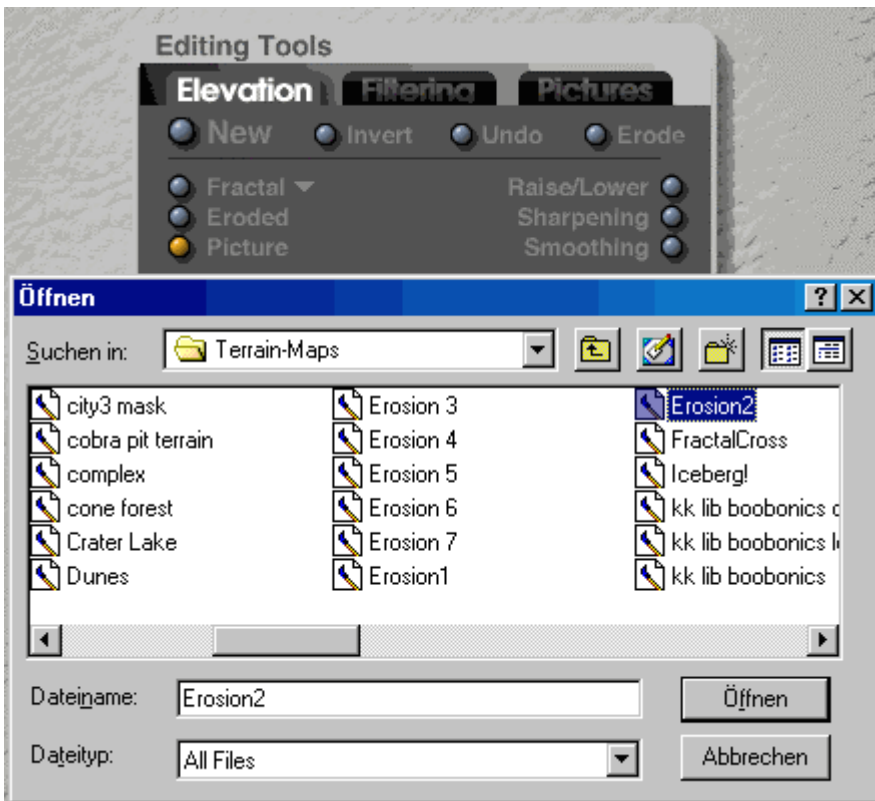
The camera will have to be moved later. Important at this point is that the Y-angle is not at the default 135°, but at 0°.

Now, create a terrain: select «Create» and click on the mountain.



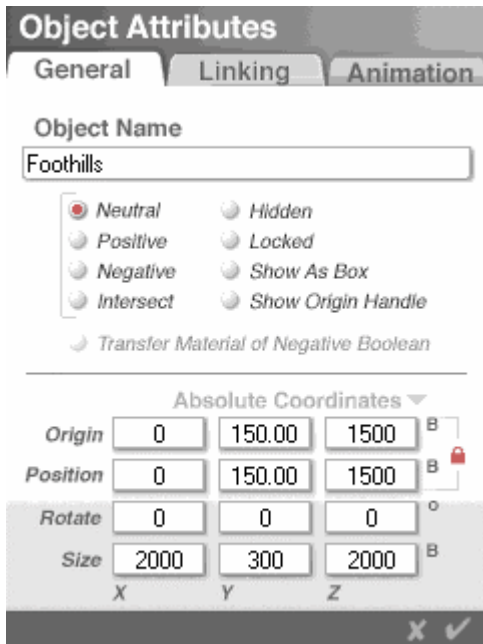
Click on «E» (Edit) to open the terrain editor. We will create the landscape together and will use ways you might not yet have explored.

In this sense, this is a double tutorial.



Clicking on the «Picture» button, the Open-Dialog appears. If you did not install the «Terrain Maps», you will find the folder on the second CD. Load the file highlighted.

I (Horo) have the name from the German version of Bryce and hope the file names were not changed from the English version. Since the operating system used is a German version as well, the Open-Dialog has the «Öffnen» caption instead of «Open».

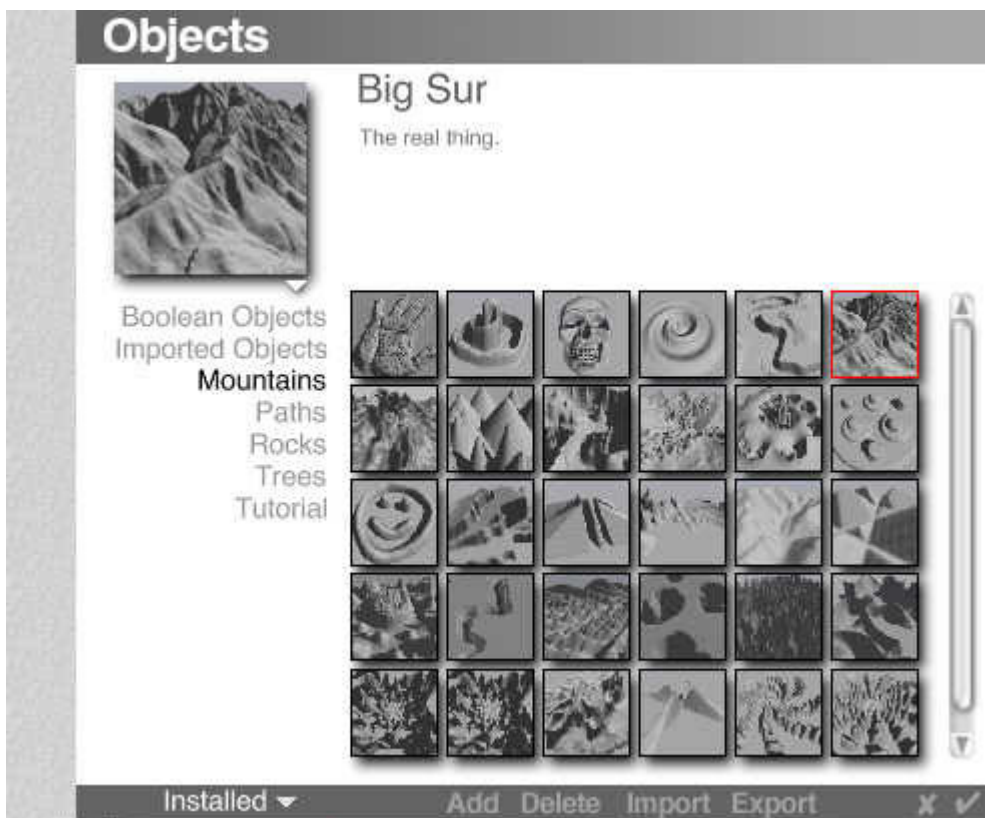


These values create the foothills at the right size and sets them at the correct position.

The next that will have to be done is to create the high mountains and set them between the foothills.

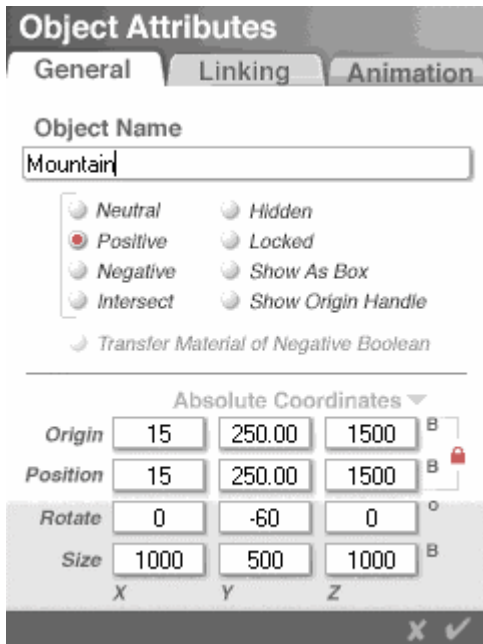
To do this, we will use a predefined terrain object from the library.

Next to «Create» in the tool bar on top is a small grey arrow pointing to the right ( > ). Click on that arrow to open the Objects Library.



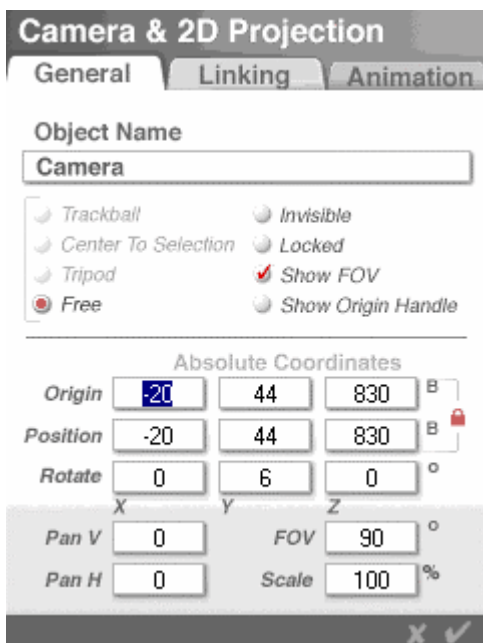
In the Objects Library, select «Mountains». From the terrains shown we chose «Big Sur»

Next, we will scale and position it in the foothills.



These values create the mountains at the right size and sets them at the correct position.

You would now move the camera to find an appropriate location for it. For this tutorial, the camera position has been defined already and the next picture shows, to what values the camera attributes have to be set.



These values set the camera at the correct position.

If you forgot how to open the Camera Attributes dialog, please have a look at the beginning of this tutorial.

For this landscape, a moderate wide angle lens with a field of view (FOV) of 90° is a good choice. This corresponds to a lens of about 21 mm for a normal camera.

Add a Water Plane (in the «Create» toolbar on top the thumbnail at far left) and set the height position (Y) in the Object Attributes popup to 33.80. This concludes the creation of our landscape.

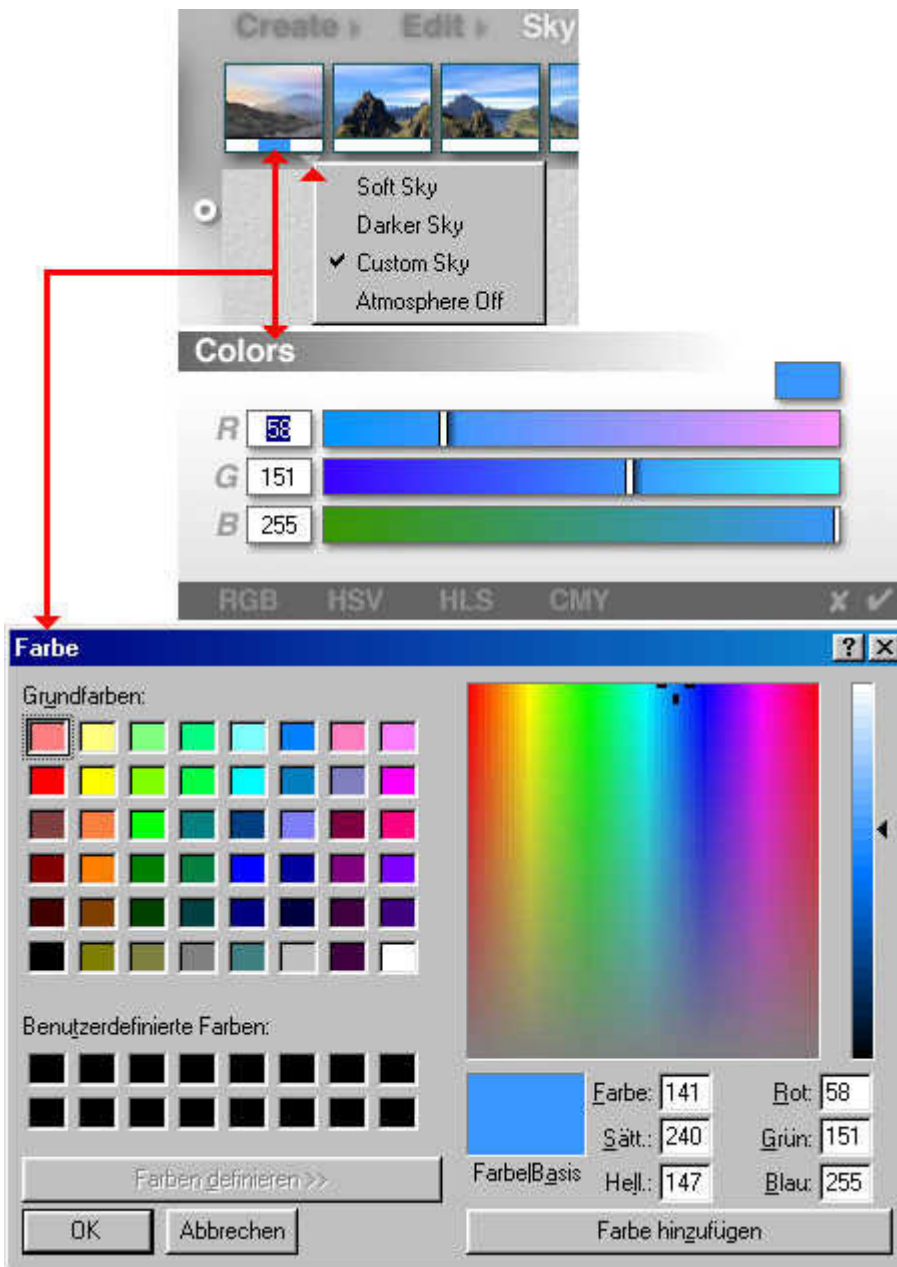


Give the three objects a material from the library. For the Mountain «Roches and Ices» (row 5, column 6) and for the Foothills «Mediterranean Hills» (row 7, col. 5), both from «Planes & Terrains». For the Water Plane select «Caribbean Resort» (row 1, col. 2) from «Waters & Liquids».

Your picture should look about as shown to the left.

The picture appears flat and boring. Next thing will be some adjustments to the default sky.





In a project of your own, you would determine materials yourself, also the appearance of the sky and the clouds. For this tutorial, they are given.

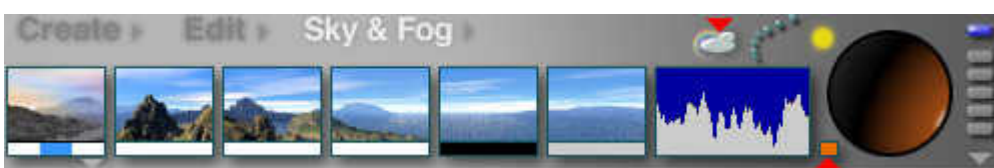
We stay as close to the default sky as possible. First, the colour for the sky will be set. Click on «Sky & Fog» in the toolbar on top. This makes appear the tools for the sky. Below the first thumbnail, you find a small grey arrow pointing down. Click on it and select «Custom Sky». Now, it is possible to adjust Sun Glow Color, Sky Color and Horizon Color yourself. We will adjust «Sky Color» only, the other two will stay white.

When you click on the colour bar below the tiny picture, a palette opens from which you can select a colour with a pipette. That is fast, but rather not precise and it is very difficult to repeat.

If you hold down the [Ctrl] key while left clicking the mouse, a colour adjuster opens, permitting precise adjustment of the basic colours red, green and blue.

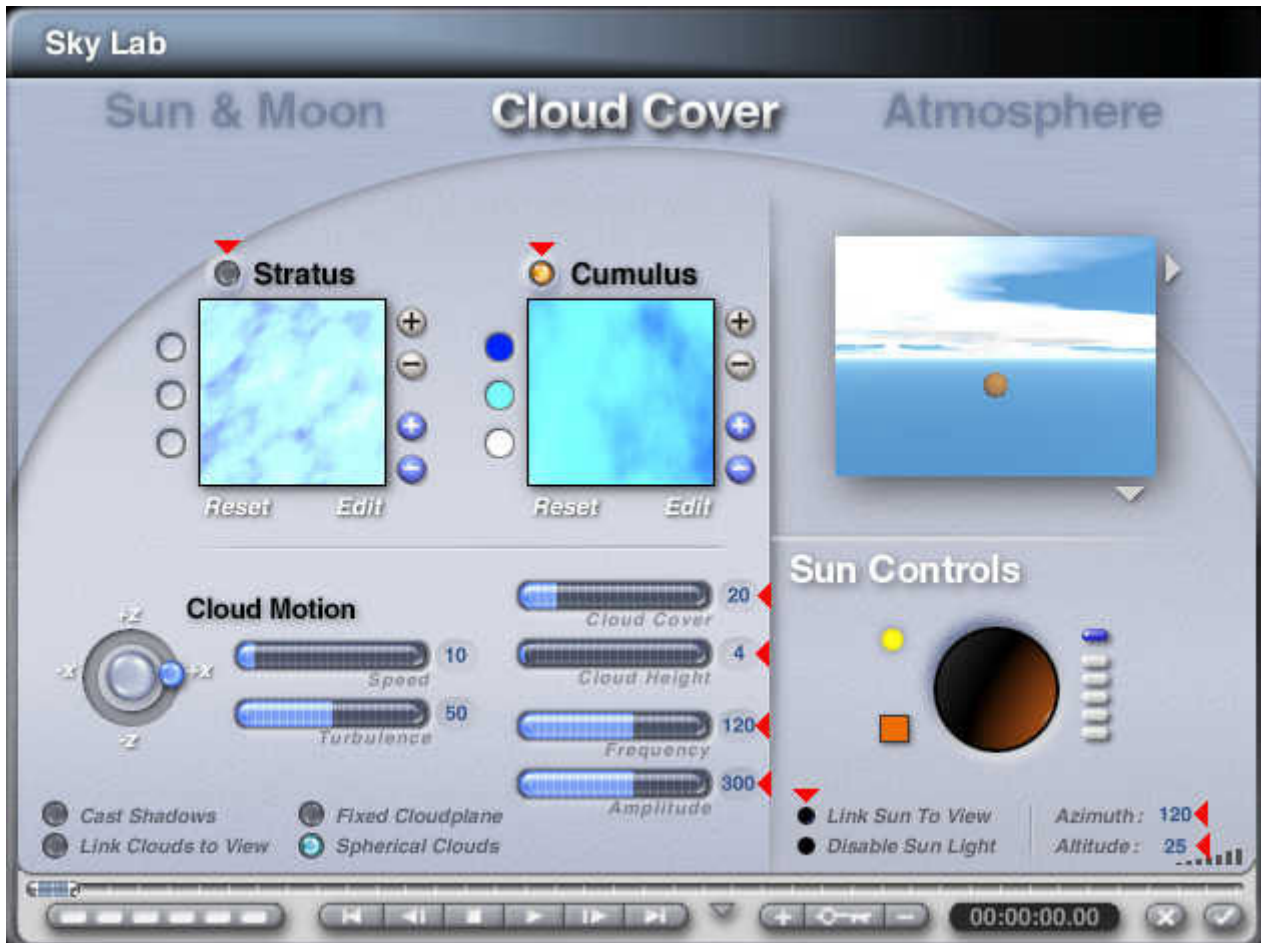
Holding down the [Ctrl] and [Alt] keys simultaneously — or, simpler, the [Alt Gr] key — and clicking the mouse, opens the Windows standard palette (here shown for the German version) which permits numerical input as well.

Whichever method you may prefer: please enter the colour values as shown.



Change the «Sun Color» (red up arrow) by clicking on the small field:  
R / G / B = 236 / 109 / 0.

Then, open the Sky lab by clicking on the small cloud.



«Sun & Moon» as well as «Atmosphere» keep the default values. Only «Cloud Cover» will be changed.

The brown sun will tint the Stratus clouds. This is not desired here, therefore, they are switched off. The «Cumulus» are activated. Change the values for «Cloud Cover», «Cloud Height», «Frequency» and «Amplitude» to the values shown.

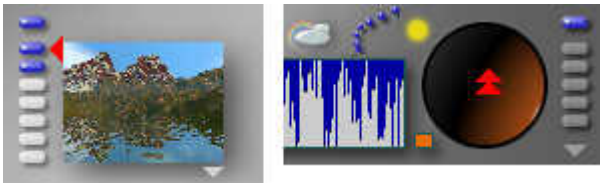
Make sure, the Sun is not linked to the view. Set the Azimuth of the sun to 120° and the Altitude to 25°. The colour for the sun has been adjusted already, accept the values and quit the Lab.



Now, what have we got? A blue sky with a few white clouds. The foothills got a warmer colour, but are still without contrast. The snow on the mountains is tinted, which is not desired here.

**Finally, we come to the main thing of this tutorial.**

Again, there are a few preparations to be done first.



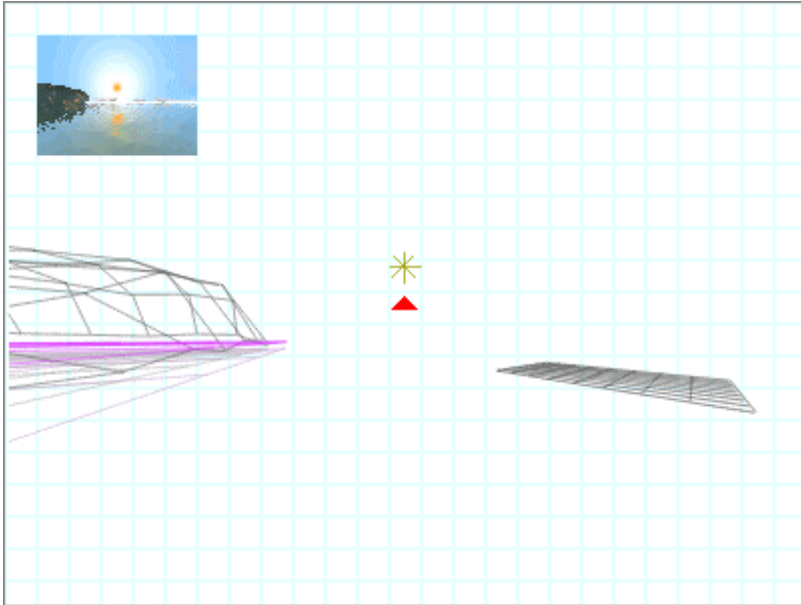
Save the current camera position by clicking on the first blue switch next to the render preview thumbnail (red arrow).

Then, double click on the sun joystick (double arrow) while holding the [Alt Gr] key. This sets a yellow star in the wire frame view at the position of the sun which will make it possible to find the sun in this world.



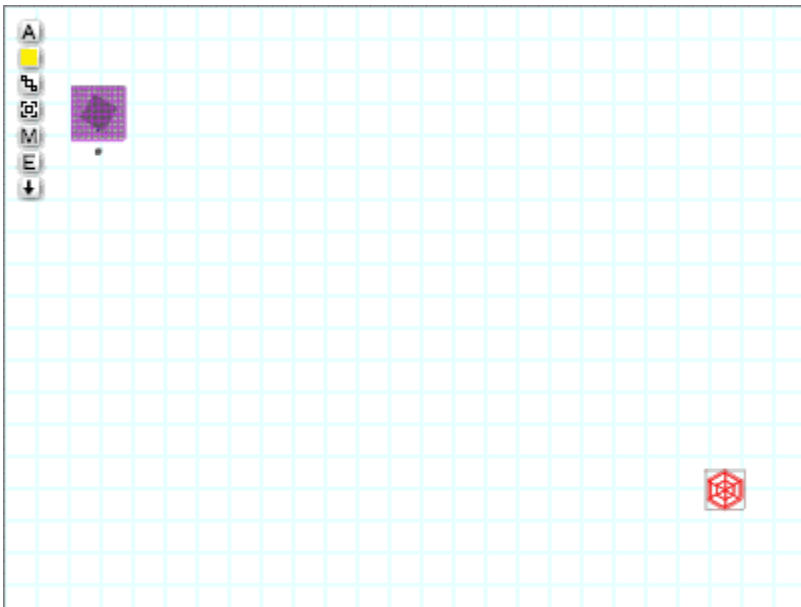
Move the camera with the joystick in east or west direction and look for the yellow star that marks the position of the sun.





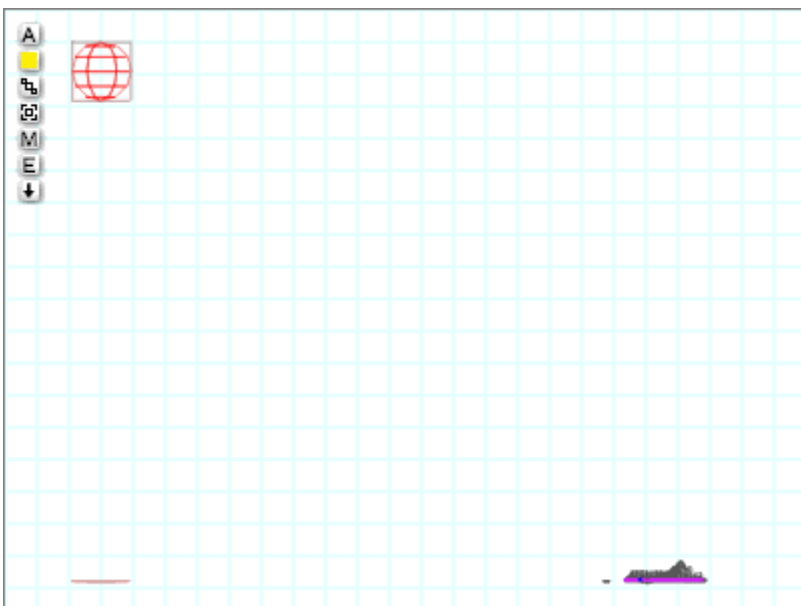
The Sun-Star found (red arrow)!. The thumbnail of the render preview for this camera attributes is included as an inset.

The camera position is at  $X / Y / Z = -75 / 44 / 325$  with the rotation angles  $X / Y / Z = -12 / 120 / 0$ . The sun azimuth is at  $120^\circ$ , hence, the camera is rotated by  $120^\circ$  as well.

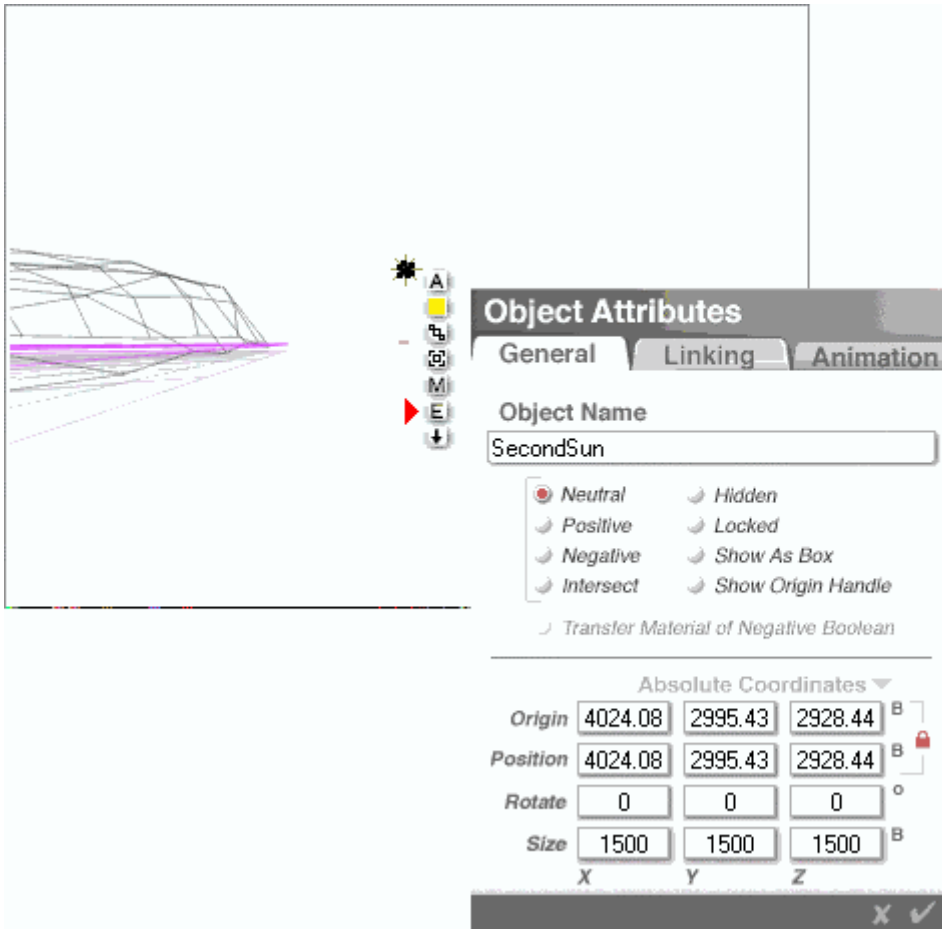


Now, add a Radial Light. Make it really big and place it far away and at a position, that makes it appear to be in front of the sun. This is the most tricky part.

The picture shows the arrangement as seen from above. Mountain and foothills are near the top left corner. The square has a size of 2'000.00 Bryce Units. The Radial Light is really very far away.



Another view of the arrangements, this time from the right. This should give you an idea about the sizes involved in this setup.



This is a tutorial and not a competition, therefore you find here the values for the position Radial Light.

The additional light source is in a direct line between the sun and the camera.

If sun and additional light source are not in one line as seen by the camera, there will be double shadows.

Now is the time to switch on the second light source. A click on the «E» opens the Light Lab.



The four small red arrows point to the items that have to be checked and adjusted. The Amount of Intensity is important. A low value is needed, here **6**. Color should be Uniform and white. It is important that the light has None Falloff to behave like the sun does.



Let's render this picture. A new, crisp landscape unfolds in front of us. Even though the foothills have a nice warm colour, the snow on the mountains is still white.

Such effects of enhanced contrast are usually done in post production with a graphics application. As we have learned, this is not necessary. Everything can be accomplished directly with Bryce.



Of course, landscapes with materials that come from the library unchanged, always look a bit simple and have something of a «beginners-look» about them.

Here, the materials were exchanged by more elaborate ones that cannot be found in the library. This is true for the mountains, the foothills and the water. The sky was also heavily tuned up. However, even this picture would look flat without the additional light source.

Idea: David Brinnen.  
Tutorial: Hans-Rudolf Wernli.