# Part 11 – The Last Symbols and Finishing Touches

Introduction

Interior design is now over but the lawn looks depressingly empty. The details that will be added fall into three categories:

- Objects tall enough to cast shadows in they are in the sun's light,
- Flat objects (already discussed, see page 80),
- Objects tall enough to cast shadows but already in the building's shadows.

Now that the bright grid has fulfilled its utility, it will be modified to conform to a battle map usage.

Lastly the walls will benefit from a bevel effect and the effect interactions will be discussed.
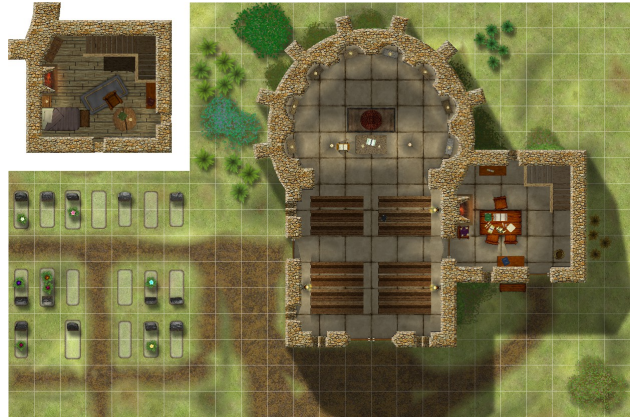
About shadow addition

You experience differences in shadow depth when several light sources light the same object, and in that case, the shadow add: they are cumulative. You notice such an effect on the left side of the inner door, between the lodging and the nave.

Shadows coming from the same light source shouldn't add.

In CC3 however, if shadows are generated on separate sheets, they will add. If you keep the shadows with an opacity of 100%, this won't show because you cannot get darker than full black.

In the present case, the opacity has been set to 50% so it's an important point to consider.

Placing vegetation symbols outside the building with a **Wall Shadow Directional** effect will be used because drawing shadows for very detailed shapes (e.g. lots of leaves) is too time consuming. If you plant a flower in an area already darkened by the shadow from the building it will yield an unrealistic darkened zone where both shadows apply:

These two fern symbols have been placed on the same sheet and a **Wall Shadow Directional** effect has been added to this sheet.

The left symbol is in the chapel's shadow so its own shadow is added to give in a dark area that is not correct.

The right symbol, being in the sun-lit area casts a shadow with the same strength than the chapel's own shadow and is correct.

The last sheets

Therefore two sheets are required to differentiate the symbols placed in the sun's light and those in the shadows. Because flat symbols don't cast shadows, regardless of their position, they can go on the same sheet as the symbols placed in the walls shadows so only two new sheets are needed:

1. Create the **SYMBOLS OUT NO SHADOW** sheet to host flat symbols and symbols already in a shadowed area. Place the new sheet between the **GROUND3** and **WALLS LOW** sheets.
2. Create the **SYMBOLS OUT SHADOW** sheet and place it between the **SYMBOLS WALL** and **WALLS TOP**. Add a **WALL SHADOW DIRECTIONAL** effect and set the parameters: Length 1.5, Opacity 50%, Blur radius 0.5. Check the **Use Global Sun Direction** box. Click **OK**, uncheck the **Activate Sheet Effects** box to prevent loosing time on redraws when placing symbols.
3. Right-click on *Sheet and Effects* 🖳 and choose *Global Sun* (**SUNINFO**↵). Set the **Azimuth** to 120° and the **Inclination** to 60° (see part 9 page 64). The **Intensity** should already be at 100%.
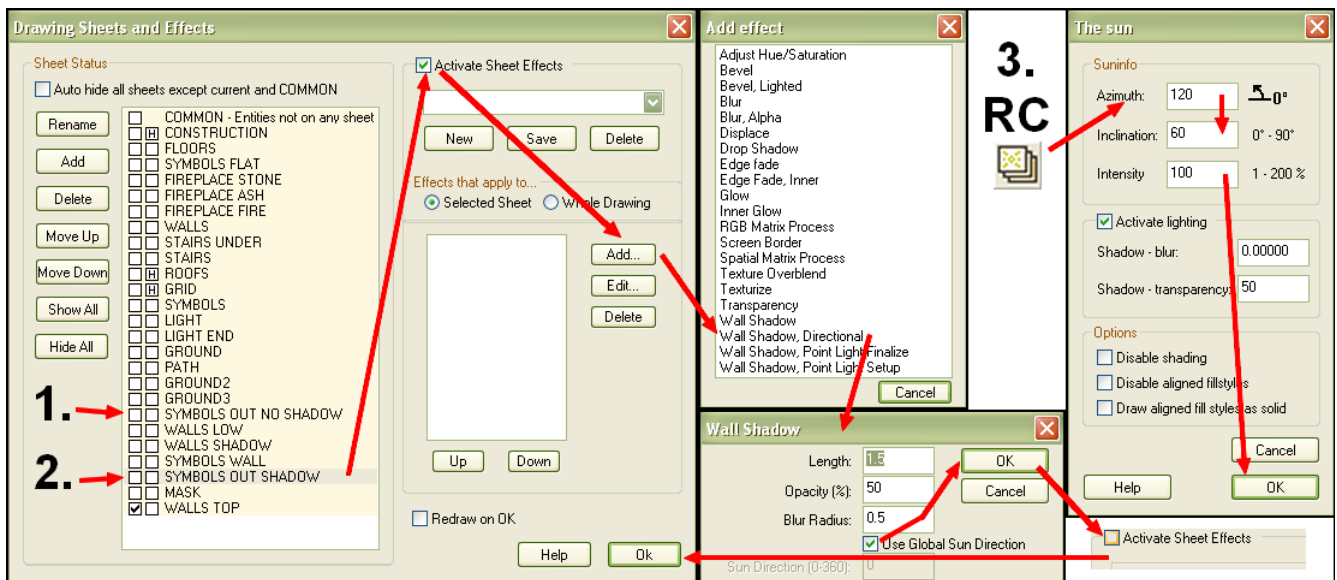
4. Place the symbols on the relevant sheets. Most of the symbols on the example map came from the CA50 Vegetation catalog and the Religious (graves and headstones) catalog mentioned in part 10. The bench is a DD3 Furniture symbol and the flowers are homemade.
5. Activate the sheet effects and make sure that shadow additions do not occur.

The Grid

The fill style chosen for the floors inside the chapel has a built-in grid pattern so it wouldn't be aesthetic to draw lines over it. The grid parts going over the floor should be erased:

1. Click on the Layer Indicator and unchek the "F" box next to the **GRID** layer name to thaw it and allow grid entities edit. Click on **OK** to close.
2. Click on the Sheet Indicator, make the **GRID** sheet current, **Hide All**, uncheck the "H" box next to the **WALLS** sheet name to make the walls visible.
3. Click on the **GRID** name to gray the line. Check **Activate Sheet Effects** then click on the right **Add** button to choose a **Transparency** effect. Set the **Opacity to 50%**. Click **OK**, uncheck **Activate Sheet Effects**.
4. Use the **Move** Down button to place the **GRID** sheet between **SYMBOLS OUT NO SHADOW** and **WALLS SHADOW**. Click **OK** to close.
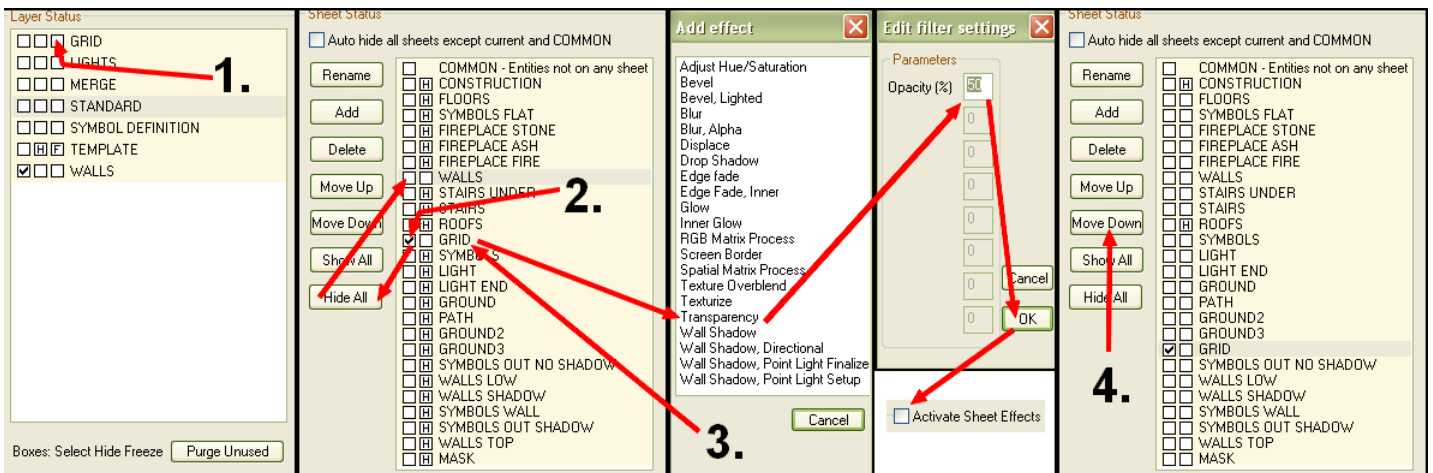

5. Break or trim all the green lines so they don't appear inside the building.
6. Right-click *Change Properties* and select *Change Color* (**CHANGEC↵**) then right-click again and select **Color** (or just hit the **C** key). Answer the prompt in the command line by **1↵**. All the grid lines should be selected. Nothing else should be color 1 on the visible sheets...
7. Either click on the white box if you have a color toolbar, type **15↵** or right-click then click on the white box in the color selector and end the command by **D** (do it).
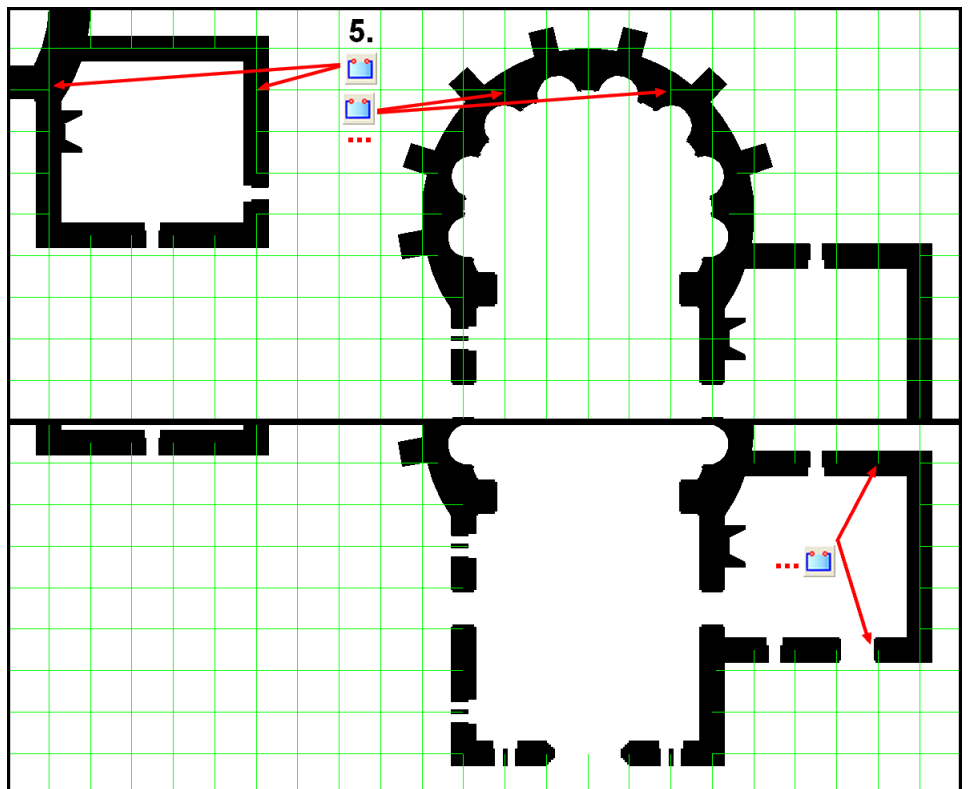
8. Save the file.
9. Click on the Sheet Indicator, and check **Activate Sheet Effects**.
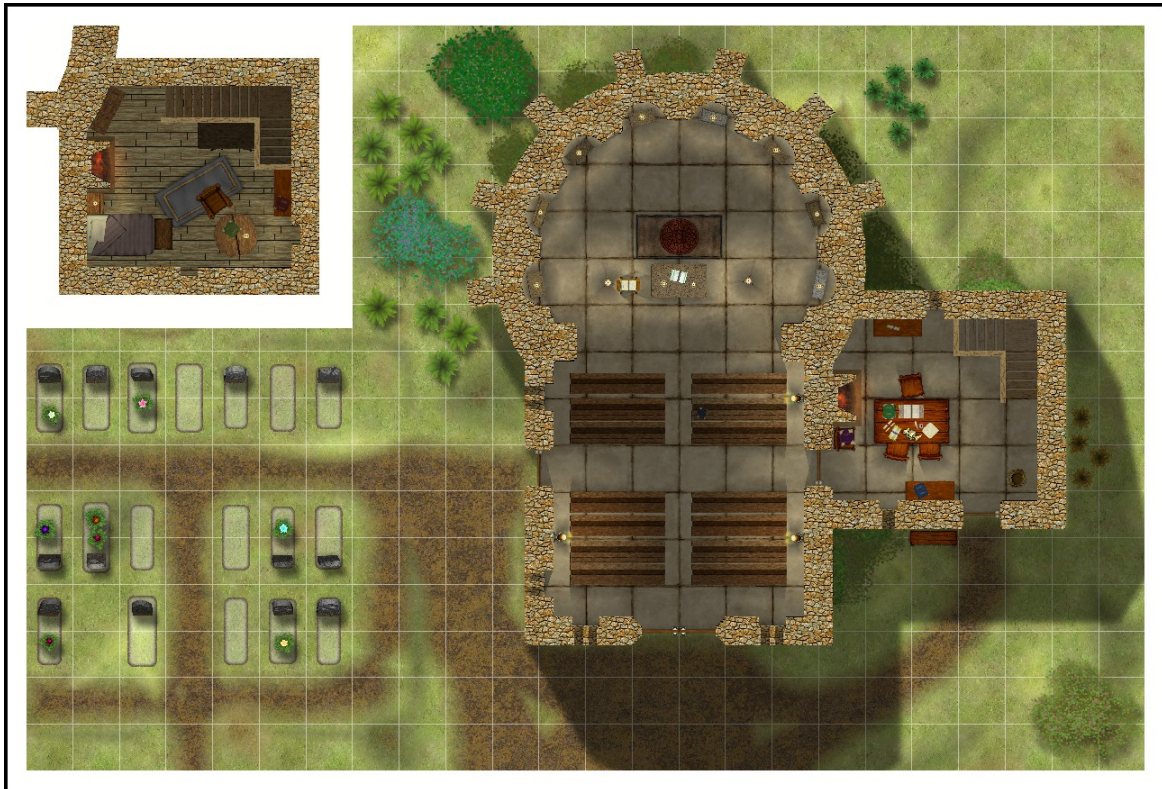
A last effect

The last effect to apply is a **Bevel** for the **WALLS TOP** sheet:

1. Click on the Sheet Indicator then on the **WALLS TOP** name to gray the corresponding line. Make sure the **Activate Sheet Effect** box is checked then click the right **Add** button. Choose **Bevel** and set the parameters: **Length**: 1, **Strength**: 30, **Invert Colors** and **Fade**: 0. Click **OK** twice.


The **Bevel** effect is applied correctly on the outside but inside it's quite a mess. Strange behavior occur with effects, especially when using bitmaps fill styles. One solution is to reorder the sheets. Profantasy Forum user Shessar also proposed to place a sheet with solid entities below the walls.

2. Click on the Sheet Indicator. Verify that the **WALLS TOP** sheet is still on a gray background and click the **Move Down** button to place it beneath the **MASK** sheet. The incorrect effect behavior is not always reproducible and sometimes after editing the map, you see it again. Reorder the sheets again or try adding a new **WALLS SOLID** sheet just under the **WALLS TOP** and copy the entities from the **WALLS** sheet if it occurs. **DO NOT** displace this **WALLS** sheet as it is used for the light effects!
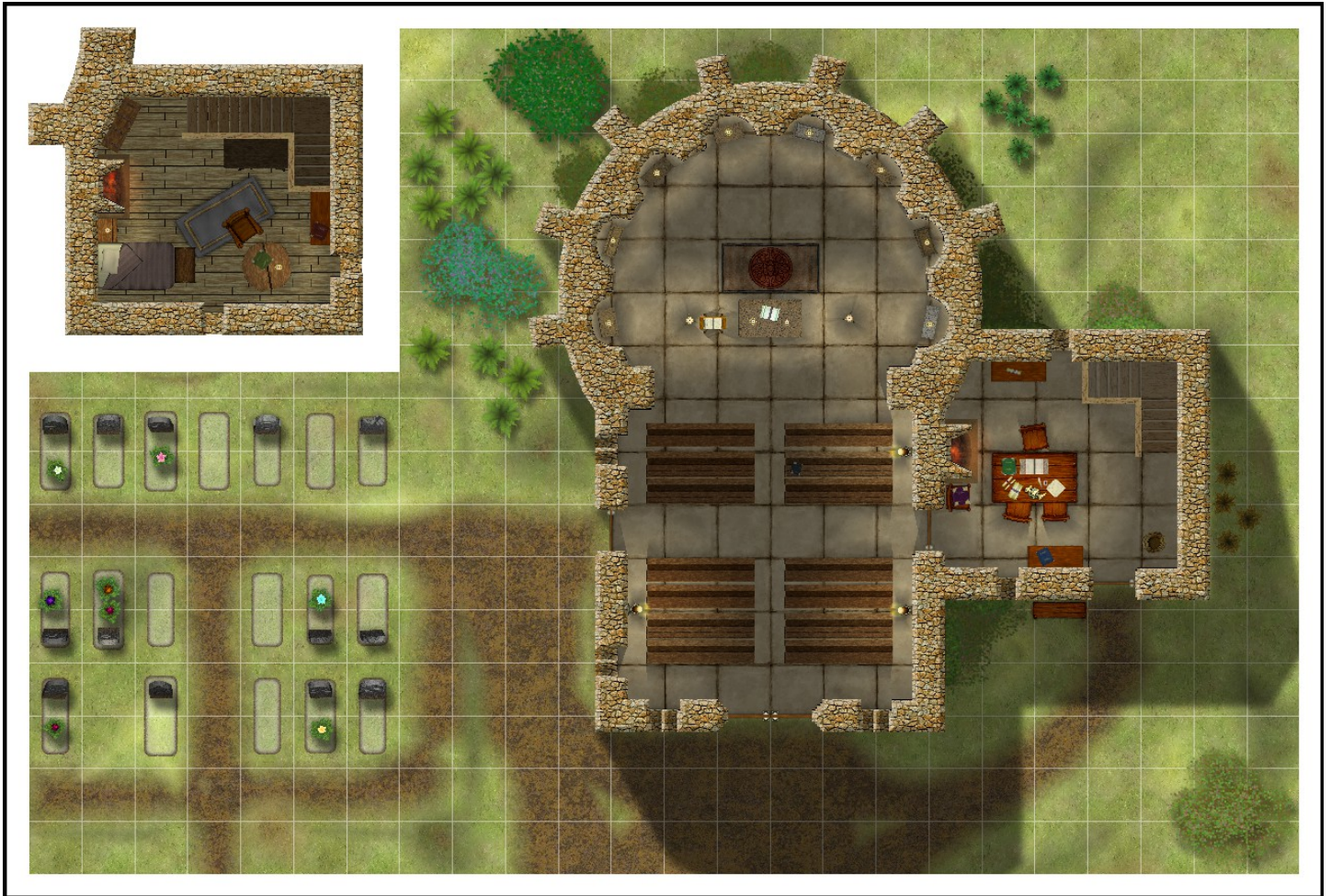

Conclusion

The map is now ready to use, with outside symbols breaking the monotony of the landscape, a game friendly grid and a nice effect for the walls.

The final version of this map features additional elements:

- A graveyard wall with two archways that have been designed following the early parts (3 – 5) of this tutorial. The shadows have been added as explained in part 9. Some grave headstones had to move from the **SYMBOLS OUT SHADOW** sheet to the **SYMBOLS OUT NO SHADOW** sheet because they ended in the new wall's shadow (part 10).
- A pine tree in the top right corner of the map. It was placed on the **SYMBOLS OUT NO SHADOW** sheet because the **Wall Shadow, Directional** effect was not suitable for two reasons:
  - The length of the shadows was determined for objects of about 3' high, not realistic for a pine tree whose diameter is 15'.
  - The shadow produced would have hinted at a cylindrical shape whereas pine trees are rather conical. The shadow has been drawn using a fractal polygon and following part 9.
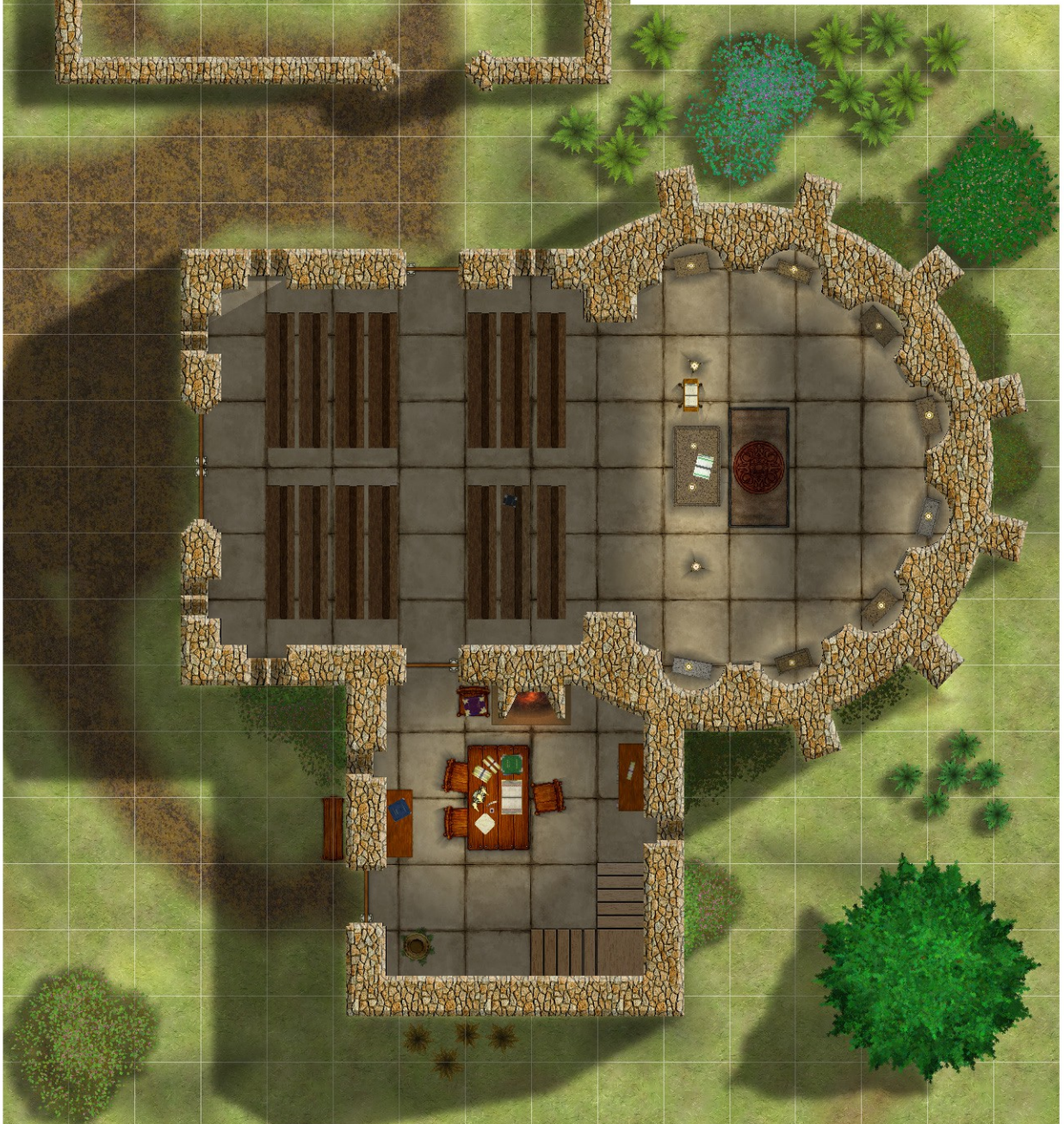
Epilogue

This tutorial has reached its end. It can be divided in two great sections:

- Section 1: using Cartographer's Annual 46, parts 1-4
- Section 2: converting a vector map to a full textured battle map, parts 5-11

Many CC3's tools have been used and described herein so I sincerely hope beginners have seen examples of most of the basic ways of handling entities, sheets and layers, which is not always easy to grasp, mainly because CC3 is very, very powerful.
Some advanced techniques and some tricks also appear in this work so I also hope veteran users found something worth reading in these 88 pages.

I'd like to thank all the friends at Profantasy Forum, and if you read this it means you too!

Very special thanks to Profantasy for producing the marvelous CC3, to Profantasy Forum user KenG who made me the honor of proof-reading, editing and counseling the draft of the texts and layouts, and to Profantasy Forum user Henrie61 who tested the tutorial from scratch on a variation on Hanin's Chapel.

Joachim de Ravenhel
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