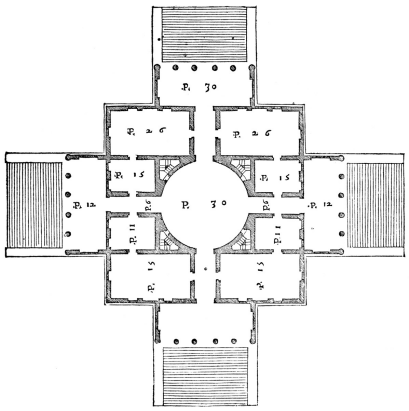
Villa Capra "La Rotonda"

Introduction

Villa La Rotonda is a Renaissance villa just outside Vicenza, northern Italy, designed by Andrea Palladio. The proper name is Villa Almerico Capra, but it is also known as La Rotonda, Villa Rotonda, Villa Capra and Villa Almerico. The name "Capra" derives from the Capra brothers, who completed the building after it was ceded to them in 1591. Like other works by Palladio in Vicenza and the surrounding area, the building is conserved as part of the World Heritage Site "City of Vicenza and the Palladian Villas of the Veneto".

Building began in 1567. Palladio, and the owner, Paolo Almerico, were not to see the completion of the villa. Palladio died in 1580 and a second architect, Vincenzo Scamozzi, was employed by the new owners to oversee the completion. One of the major changes he made to the original plan was to modify the two-storey centre hall.



I Facade

The ville is composed by four identical facades, so here is exposed the building of one of them. At the end, the facade is replicated on all four sides by the functions T and R.

I.I Steps

The steps are made with the STRUCT function applicated on a CUBOID and a translation (T) on the coordinates **y** and **z**. SIMPLEX_GRID was used for the small walls on steps sides and a couple of replicated CYLINDRICAL_SURFACE (one horizontal and one vertical) for the grate of the small windows.

1.2 Tunnel

In the building of the tunnel behind the steps was used the function SIMPLEX_GRID for the simple polygons (the simple walls). The archway is made by two bidimensional NUBS for the archs and a product between them by the BEZIER (SI) function.

1.3 Colonnade

This part of the ville is composed by the columns and the two archways on the sides; them are both composed by different parts, so they're going to be analyzed singly.

1.3.1 Columns

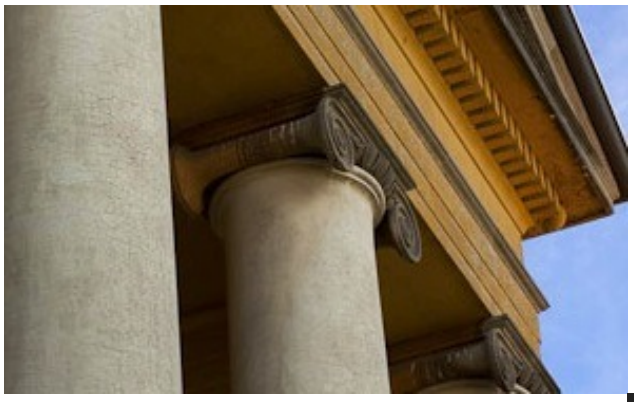
The columns consist in a unique column, of whose composition is explained below, translated on **x**-coordinate.

1.3.1.1 Base and body

The column's base was made using a CUBOID and a surface above it generated by a ROTATIONAL_SURFACE used on a bidimensional NUBS. The body is a ROTATIONAL_SURFACE on a

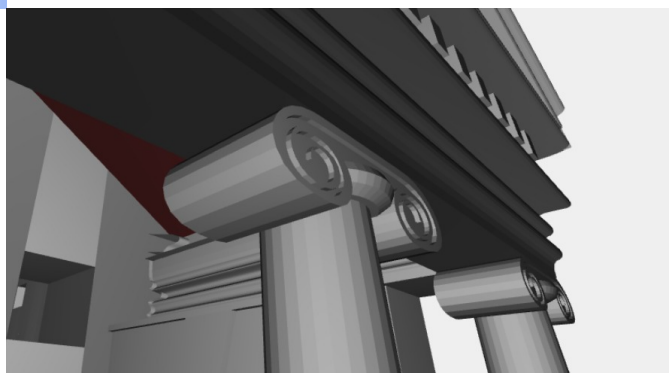
NUBS too: the profile was made using the "6/5 at 1/3" rule, that says that the column's radius, at 1/3 of the height, is 6/5 of the base's radius.

1.3.1.2 Capital



The capital,in ionic style, was made by a couple of bidimensional NUBS for the profile, and a series of BEZIER between them to generate the volute's lateral surfaces and relief. It was also used a TORUS_SURFACE to made the echinus between the volutes.

It may appear not perfectly roundish, cause all domains have to be mantained low, in order not to load the entire project too much.



1.3.2 Lateral archways

The archway's base was made using SIMPLEX_GRID. The arch's pillars were made by SIMPLEX_GRID too. The arch is modeled by two bidimensional NUBS and a BEZIER between them to generate the surface, the same tecnique used for the tunnel.

There's a particular ornament in the middle of the arch: it has a particular shape, modeled using a SIMPLICIAL_COMPLEX with 8 vertices and 6 faces. All parts of the structure are put together in a STRUCT, after replicated on the other side of the columnade.