3DEDALUS

Imagine yourself in a three-dimensional crystalline labyrinth, bathed in light and color...

3DEDALUS

3D-printed sculpture of a multi-dimensional labyrinth.

The locations of James Joyce's Ulysses, the matrix for each floor of the labyrinth.

The labyrinth is a cube made up of 25 stacked QR codes leading to the journey of Leopold Bloom, hero of James Joyce's Ulysses, through the streets of Dublin.

3DEDALUS is a sculpture of a multi-dimensional labyrinth. To create this 3D labyrinth, we imagined a labyrinth in which each floor is a QR code linking to each of the 25 locations where the action of James Joyce's novel Ulysses takes place. Each of these locations on google street view in QR code form is the matrix of each floor of the labyrinth.

The labyrinth is a cube made up of 25 QR codes stacked one on top of the other, leading to the journey of Leopold Bloom, the hero of James Joyce's Ulysses, through the streets of Dublin.

3DEDALUS

A first version of the labyrinth was developed in collaboration with engineer Jérémie François, then printed in a variety of materials. The .stl file used for printing was created with Openscad. It's easy to print out the black and white QR codes separately, and build the labyrinth by gluing each cube to the checkerboard or QR CODE plan.

Other works are linked to this project and can form a complete exhibition :

- 3D lenticular photographs, which are artifacts of google street view.
- embossed prints of the project's QR codes in white on white.
- A sound installation

3DEDALUS

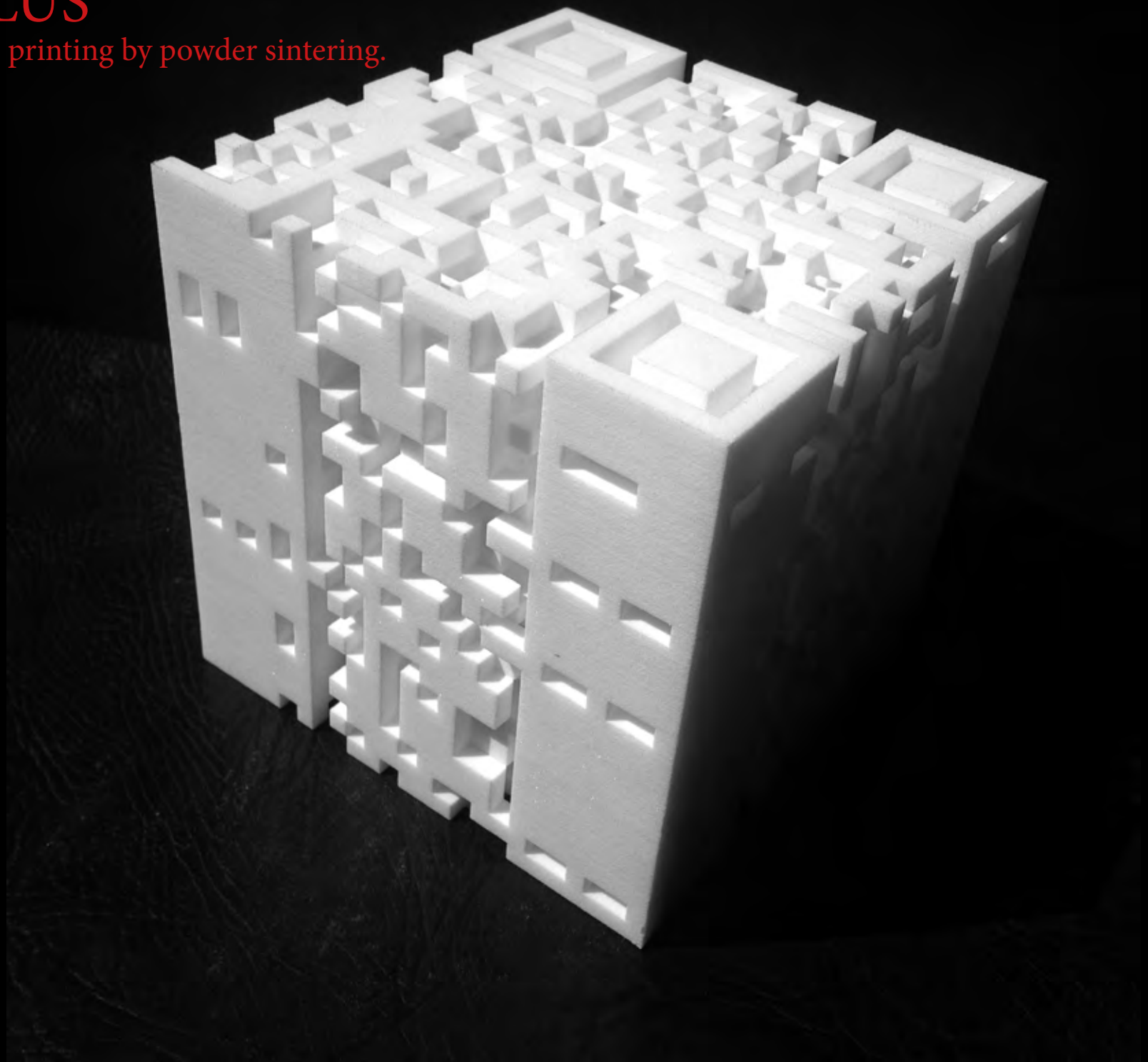
stereolithographic 3D printed prototype

3DEDALUS

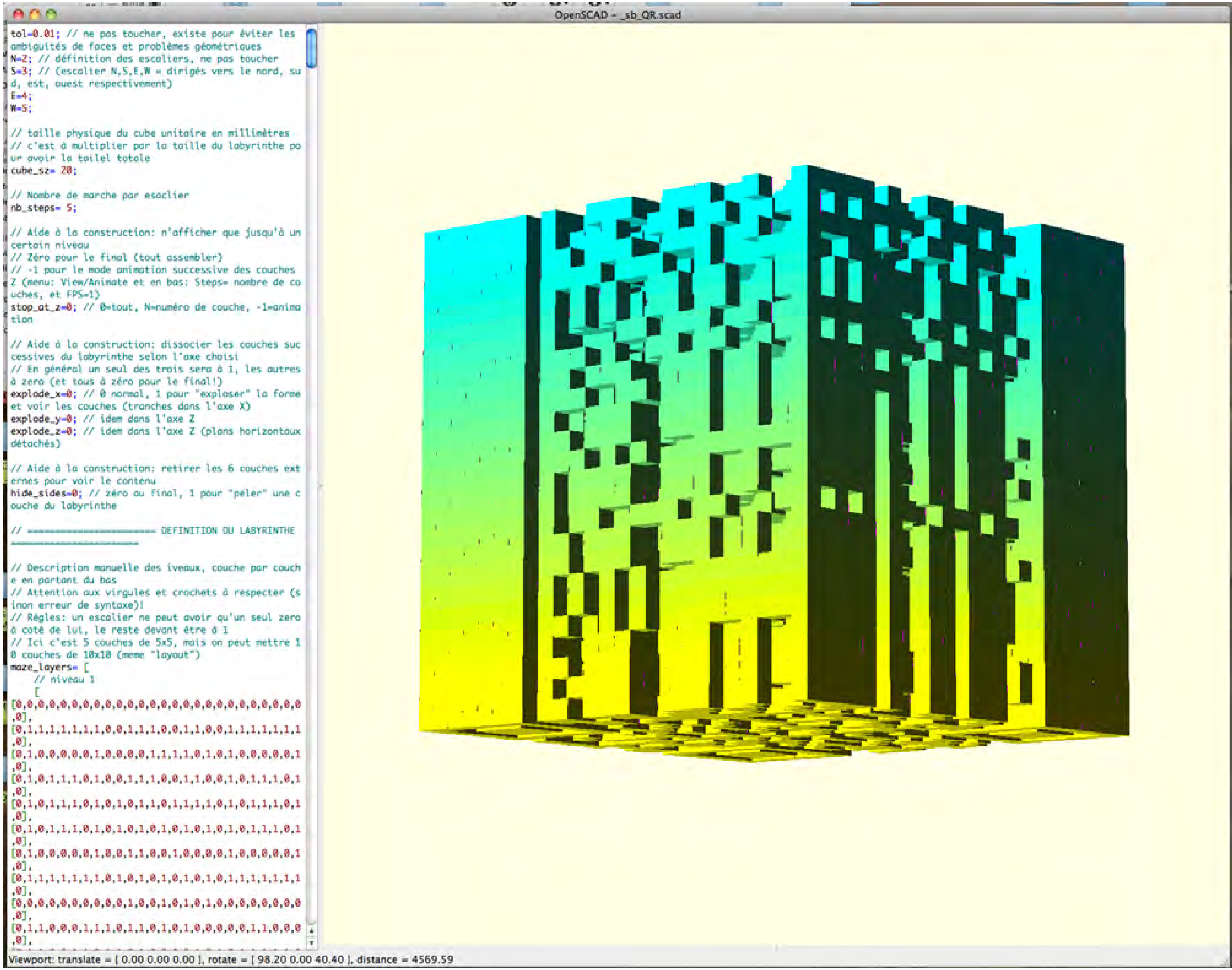
stereolithographic 3D printed prototype

3DEDALUS

Prototype in 3D printing by powder sintering.



Programming on openscad by Jeremie François



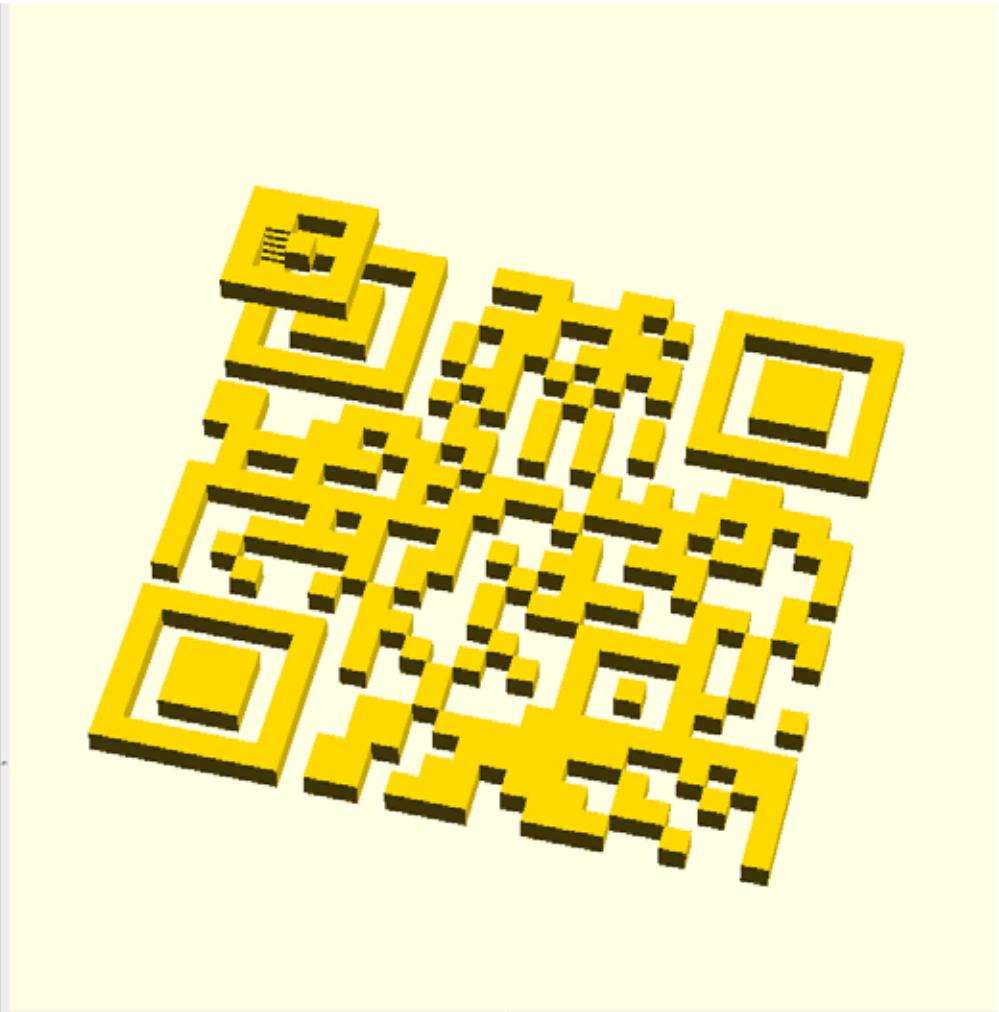
```
// Aide à la construction: dissocier les couches successives du labyrinthe selon l'axe choisi
// En général un seul des trois sera à 1, les autres à zero (et tous à zéro pour le final!)
explode_x=0; // 0 normal, 1 pour "exploser" la forme et voir les couches (tranches dans l'axe X)
explode_y=0; // idem dans l'axe Z
explode_z=0; // idem dans l'axe Z (plans horizontaux détachés)

// Aide à la construction: retirer les 6 couches externes pour voir le contenu
hide_sides= 0; // zéro au final, 1 pour "peler" une couche du labyrinthe

// ====================== DEFINITION DU LABYRINTHE ======================

// Description manuelle des iveaux, couche par couche en partant du bas
// Attention aux virgules et crochets à respecter (sinon erreur de syntaxe)!
// Règles: un escalier ne peut avoir qu'un seul zero à coté de lui, le reste devant être à 1
// Ici c'est 5 couches de 5x5, mais on peut mettre 10 couches de 10x10 (meme "layout")
maze_layers= [
    // niveau 1 (base pleine, sauf pour le trou d'entrée)
    [
        [0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0],
        [0,1,1,1,1,1,1,1,0,0,1,1,1,0,0,1,1,0,0,1,1,1,1,1,1,0],
        [0,1,0,0,0,0,0,1,0,0,0,0,1,1,1,1,0,1,0,1,0,0,0,0,1,0],
        [0,1,0,1,1,1,0,1,0,0,1,1,1,0,0,1,1,0,0,1,0,1,1,1,0,1,0],
        [0,1,0,1,1,1,0,1,0,1,0,1,1,0,1,1,1,1,0,1,0,1,1,1,0,1,0],
        [0,1,0,1,1,1,0,1,0,1,0,1,0,1,0,1,0,1,0,1,1,1,1,0,1,0],
        [0,1,0,0,0,0,0,1,0,0,1,1,0,0,1,0,0,0,0,1,0,0,0,0,0,1,0],
        [0,1,1,1,1,1,1,1,0,1,0,1,0,1,0,1,0,1,1,1,1,1,1,1,1,0],
        [0,0,0,0,0,0,0,0,0,0,1,0,0,1,0,1,0,1,0,0,0,0,0,0,0,0],
        [0,1,1,0,0,0,1,1,1,0,1,1,0,1,0,1,0,0,0,0,1,1,0,0,0,0],
        [0,1,1,0,0,1,1,0,1,1,0,1,0,0,0,1,0,1,0,1,1,1,1,1,0,0],
        [0,0,1,1,1,1,1,1,0,1,1,0,1,1,1,0,1,1,1,1,0,1,0,1,1,0],
        [0,0,1,0,0,1,0,0,0,1,0,1,1,0,0,1,0,0,0,1,0,1,1,0,0,1,0],
        [0,1,1,1,1,1,1,1,1,1,1,1,0,0,0,0,1,0,1,1,1,0,0,0,0,1,0],
        [0,1,0,0,0,1,0,1,0,0,1,0,1,0,1,1,0,0,0,1,0,0,0,1,0,0],
        [0,1,0,0,1,1,1,1,1,0,1,1,0,0,1,0,1,1,1,0,0,1,1,0,1,1,0],
        [0,1,0,1,0,0,0,0,1,0,1,0,0,1,0,1,1,0,0,0,0,1,0,1,0,1,0],
        [0,1,0,0,1,0,0,1,0,1,0,0,0,1,0,0,0,1,1,1,1,1,0,1,0,0,0],
        [0,0,0,0,0,0,0,0,0,1,1,0,0,0,1,0,0,1,0,0,0,1,0,1,0,0,0],
        [0,1,1,1,1,1,1,1,0,1,0,1,0,1,0,1,0,1,0,1,1,0,0,1,0],
        [0,1,0,0,0,0,0,1,0,1,0,0,1,0,0,0,0,1,0,0,0,1,0,0,0,0,0],
        [0,1,0,1,1,1,0,1,0,0,0,0,1,0,0,0,1,1,1,1,1,1,1,1,1,0],
        [0,1,0,1,1,1,0,1,0,0,1,1,0,1,1,1,1,1,1,1,0,0,1,0,1,1,0],
        [0,1,0,1,1,1,0,1,0,0,1,1,0,0,1,1,1,1,0,0,1,0,0,1,0,1,0],
        [0,1,0,0,0,0,0,1,0,1,1,0,0,1,1,0,1,1,1,0,1,1,0,0,0,1,0],
        [0,1,1,1,1,1,1,1,0,1,1,0,1,1,1,0,0,1,1,1,0,0,1,0,0,1,0],
        [0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
    ]
    , // niveau 2
    [
        [1,1,1,1,1],
        [1,1,0,0,1],
        [1,N,1,0,1],
        [1,0,0,0,1],
        [1,1,1,1,1]
    ]
    , // niveau 3
    [
        [1,1,1,1,1],
        [1,0,1,1,1],
        [1,0,1,0,1],
        [1,1,1,1,1],
        [1,1,1,1,1]
    ]
    , // niveau 4
    [
        [1,1,1,1,1],
        [1,0,1,1,1],
        [1,0,1,0,1],
        [1,0,E,1,1],
        [1,1,1,1,1]
    ]
    , // niveau 5, sortie dans un coin avec escalier vers l'ouest
    [
        [1,1,1,1,1],
        [1,1,1,1,1]
```

OPENSCAD

First Level of the labyrinth and imagination of a virtual staircase

OPENSCAD

Erste Ebene des Labyrinths und Vorstellung einer virtuellen Treppe



```
Module cache size: 0 modules
Compiling design (CSG Tree generation)...
Rendering Polygon Mesh using CGAL...
PolySets in cache: 0
PolySet cache size in bytes: 0
CGAL Polyhedrons in cache: 3006
CGAL cache size in bytes: 15332288
  Top level object is a 3D object:
  Simple:     yes
  Valid:      yes
  Vertices:   842
  Halfedges:  2526
  Edges:      1263
  Halffacets: 870
  Facets:     435
  Volumes:    10
Total rendering time: 0 hours, 1 minutes, 36 seconds
Rendering finished.
Saved design '/Users/stephanbarron/Desktop/__3DEDALUS/DEVELOPPEMENT/_STL OPENSCAD
jérémie/sb_stairs_QR1ulysse.scad'.
Saved design '/Users/stephanbarron/Desktop/__3DEDALUS/DEVELOPPEMENT/_STL OPENSCAD
jérémie/sb_stairs_QR1ulysse.scad'.
```

QR CODE : First level of the labyrinth

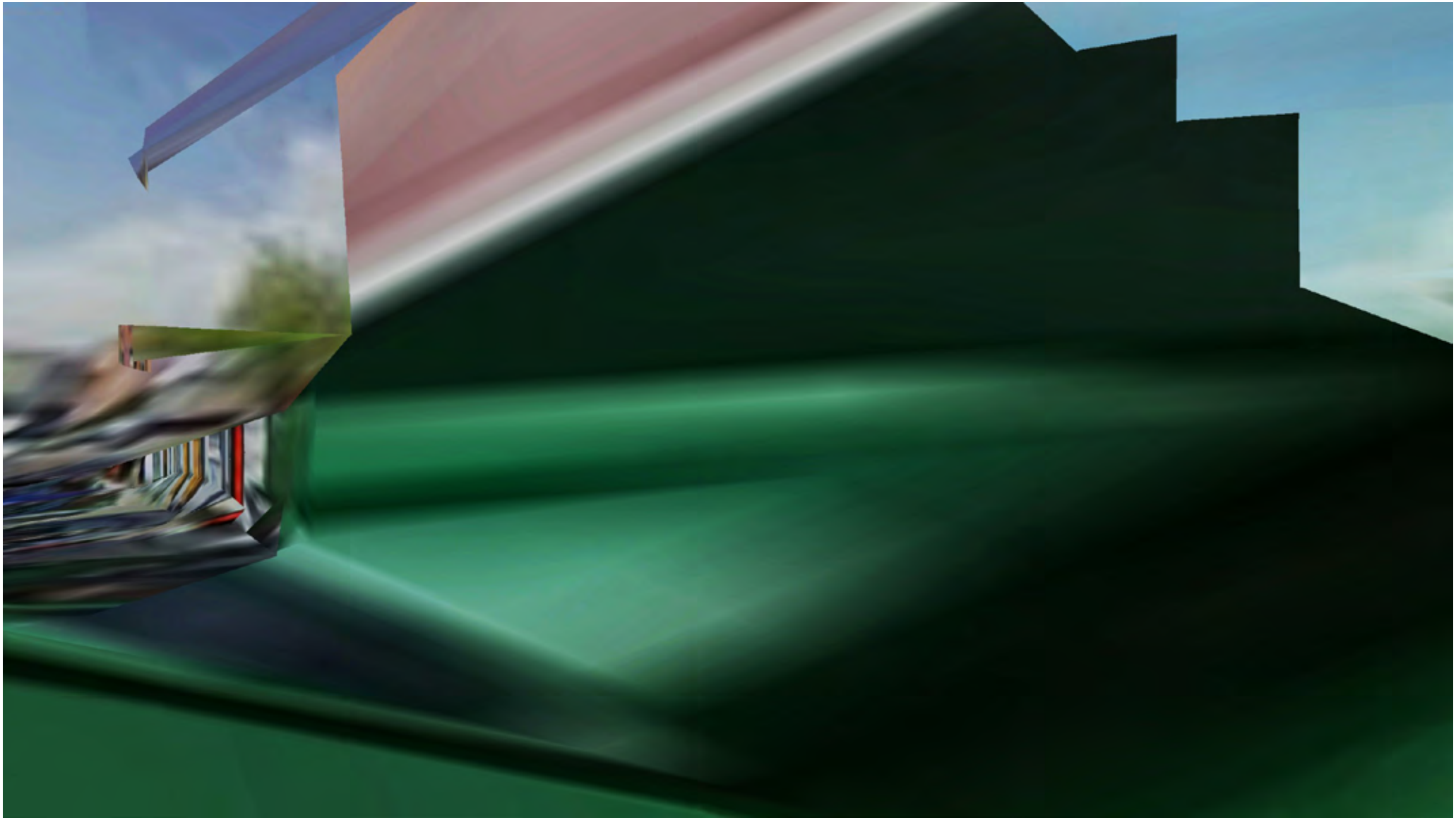
chapter 1 of James Joyce Ulysse's

Sandycove Martello tower

place 1 http://bit.ly/1liO3Sr

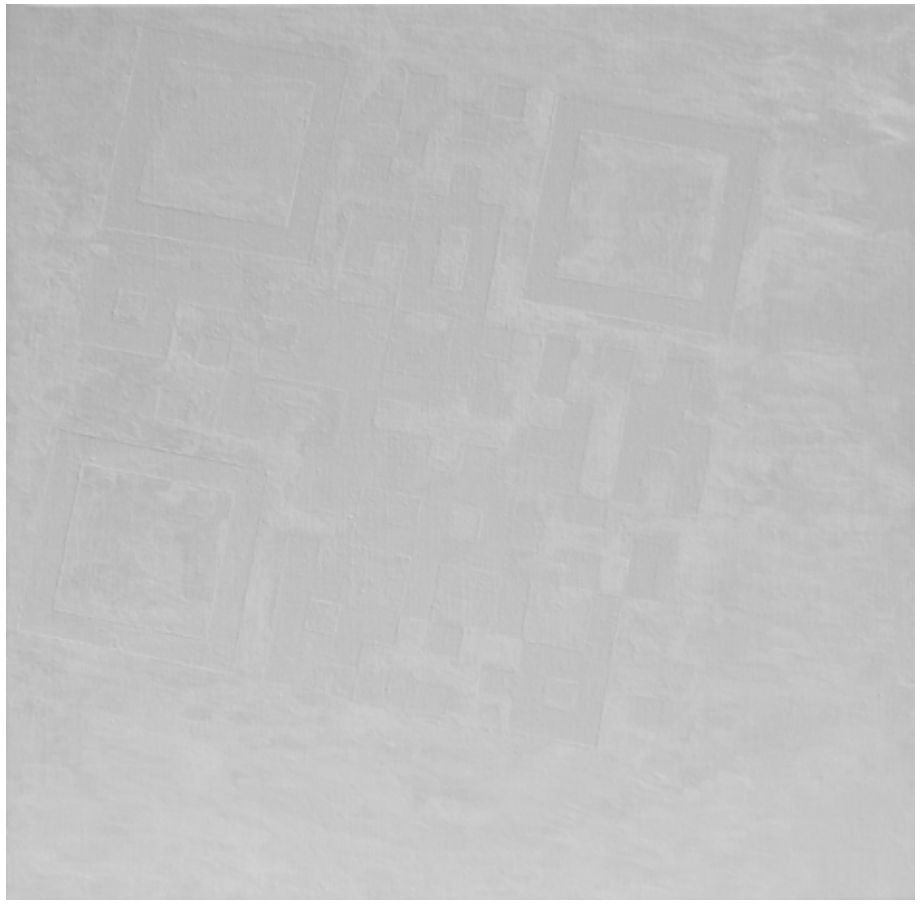
3DEDALUS

Selection of some digital images of artifacts from google street view.
Photographic prints, some images are in 3D with lenticular prints.



3DEDALUS

Embossed prints on paper:
The idea behind these works is to produce a paradox of QR codes, by producing them using this technique, they are in white on a white background, raised but illegible.
They are made by pressure embossing from models produced by digital cutting.



They refer to one of Stéphan Barron's works, a white QR on a white background.