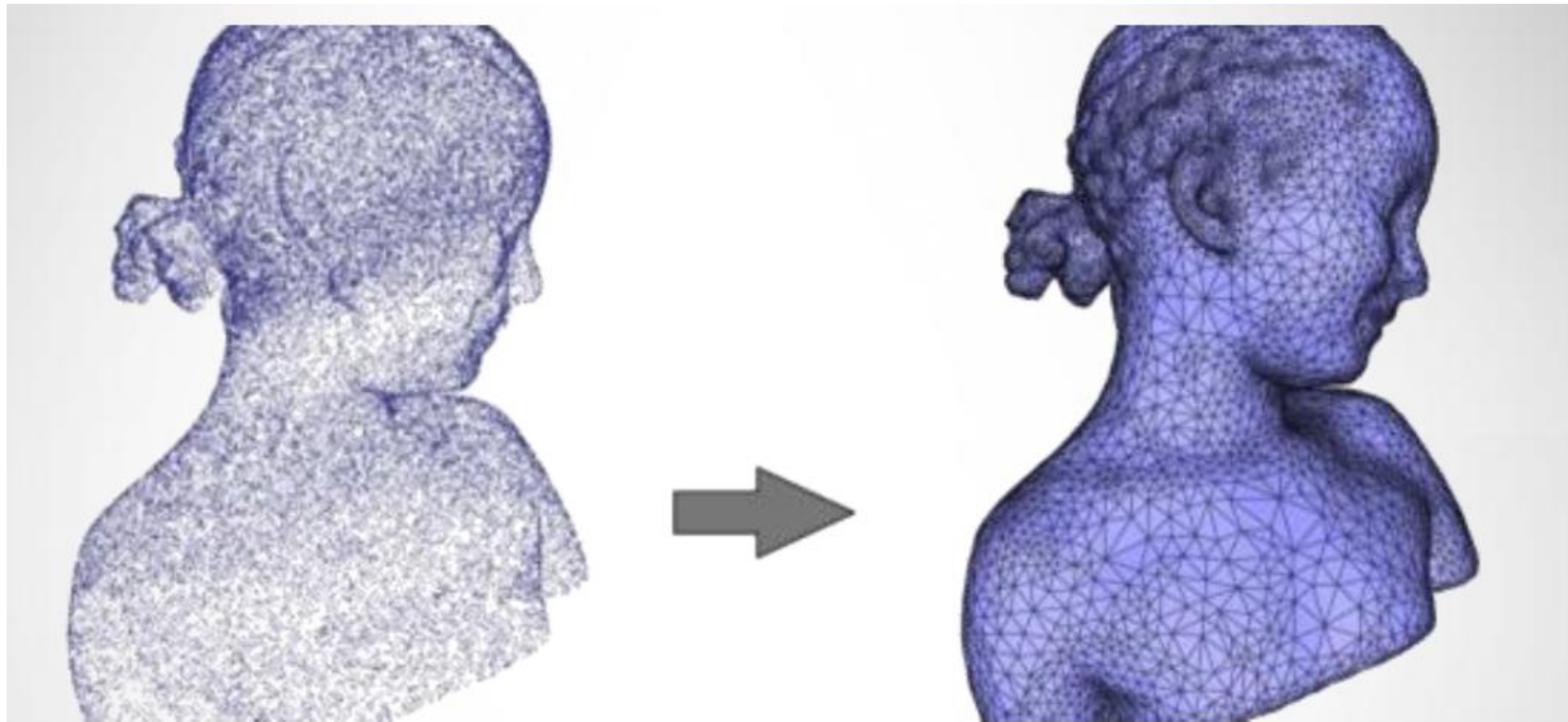


Malhas poligonais e Subdivisão de Superfícies

Exemplos de modelos 3D

Pontos x Malhas Poligonais



SUPERFÍCIES

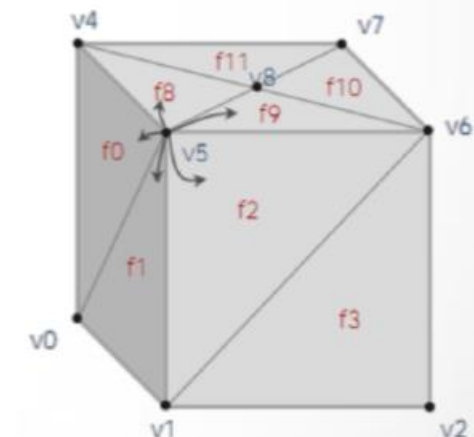
Vertices		Edges	
0	(0, 0)	0	(0, 1)
1	(2, 0)	1	(1, 3)
2	(0, 1)	2	(3, 4)
3	(2, 1)	3	(4, 2)

Vertex List

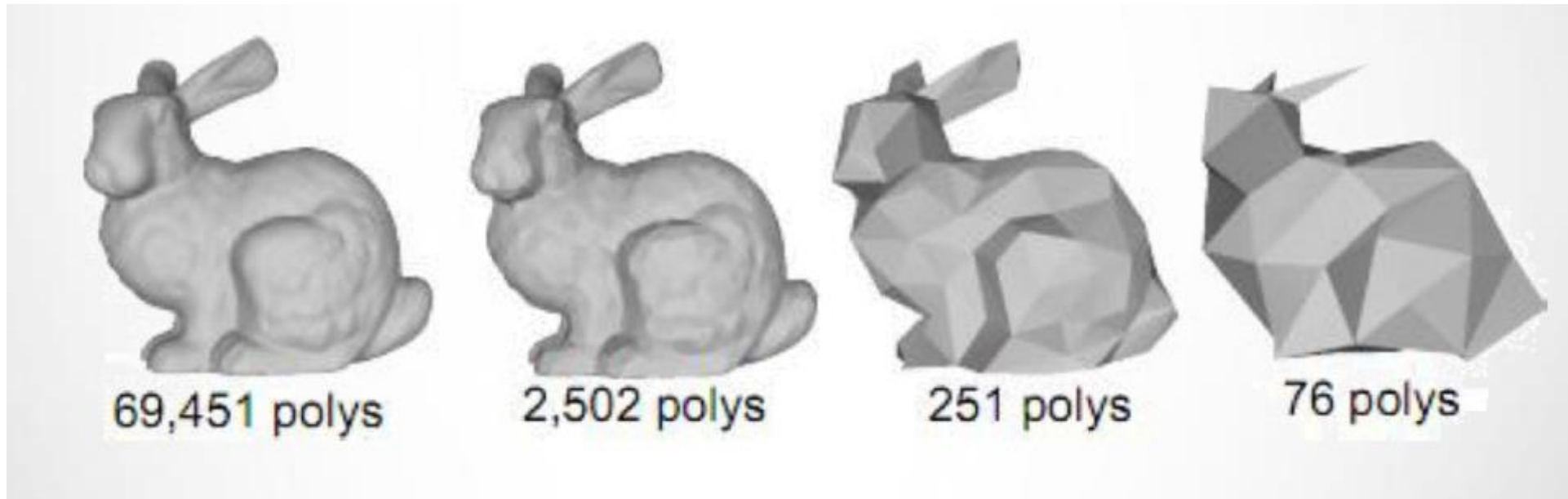
v0	0,0,0	f0 f1 f12 f15 f7
v1	1,0,0	f2 f3 f13 f12 f1
v2	1,1,0	f4 f5 f14 f13 f3
v3	0,1,0	f6 f7 f15 f14 f5
v4	0,0,1	f6 f7 f0 f8 f11
v5	1,0,1	f0 f1 f2 f9 f8
v6	1,1,1	f2 f3 f4 f10 f9
v7	0,1,1	f4 f5 f6 f11 f10
v8	.5,.5,0	f8 f9 f10 f11
v9	.5,.5,1	f12 f13 f14 f15

Face List

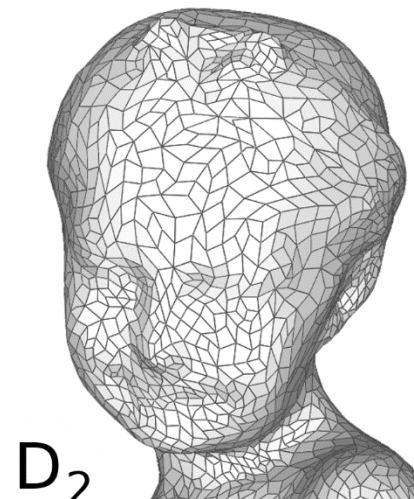
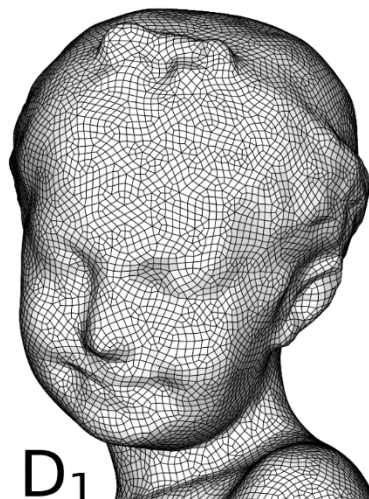
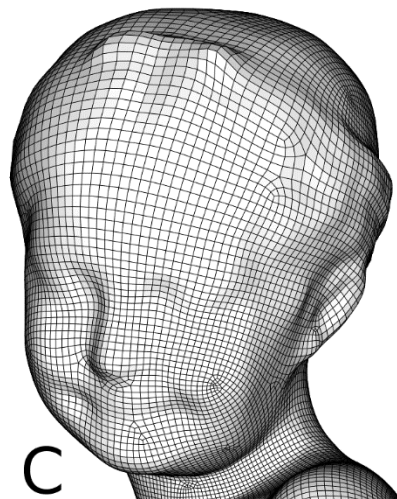
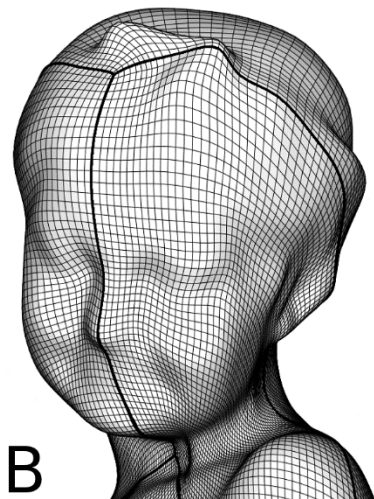
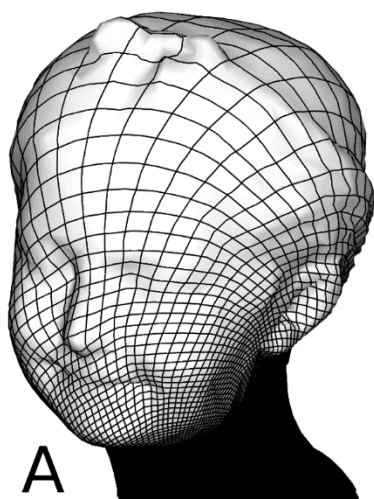
f0	v0 v4 v5
f1	v0 v5 v1
f2	v1 v5 v6
f3	v1 v6 v2
f4	v2 v6 v7
f5	v2 v7 v3
f6	v3 v7 v4
f7	v3 v4 v0
f8	v8 v5 v4
f9	v8 v6 v5
f10	v8 v7 v6
f11	v8 v4 v7
f12	v9 v5 v4
f13	v9 v6 v5
f14	v9 v7 v6
f15	v9 v4 v7



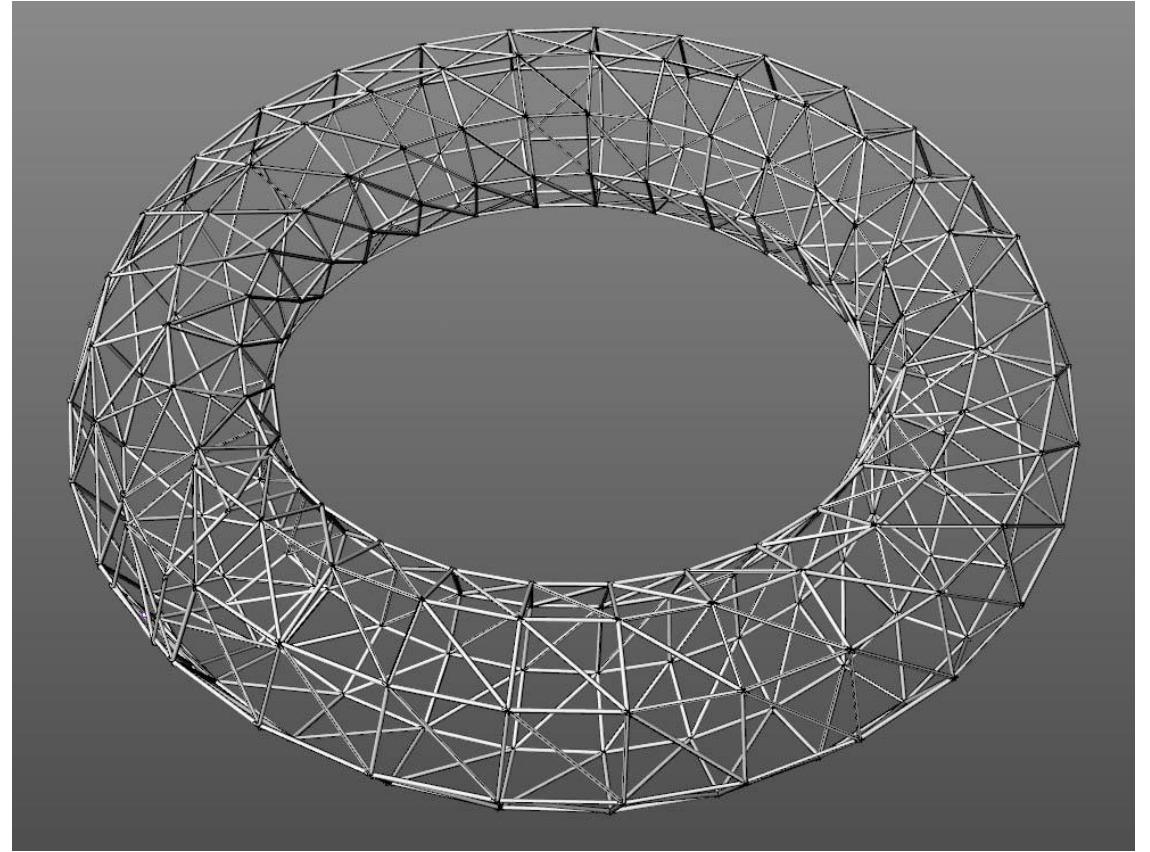
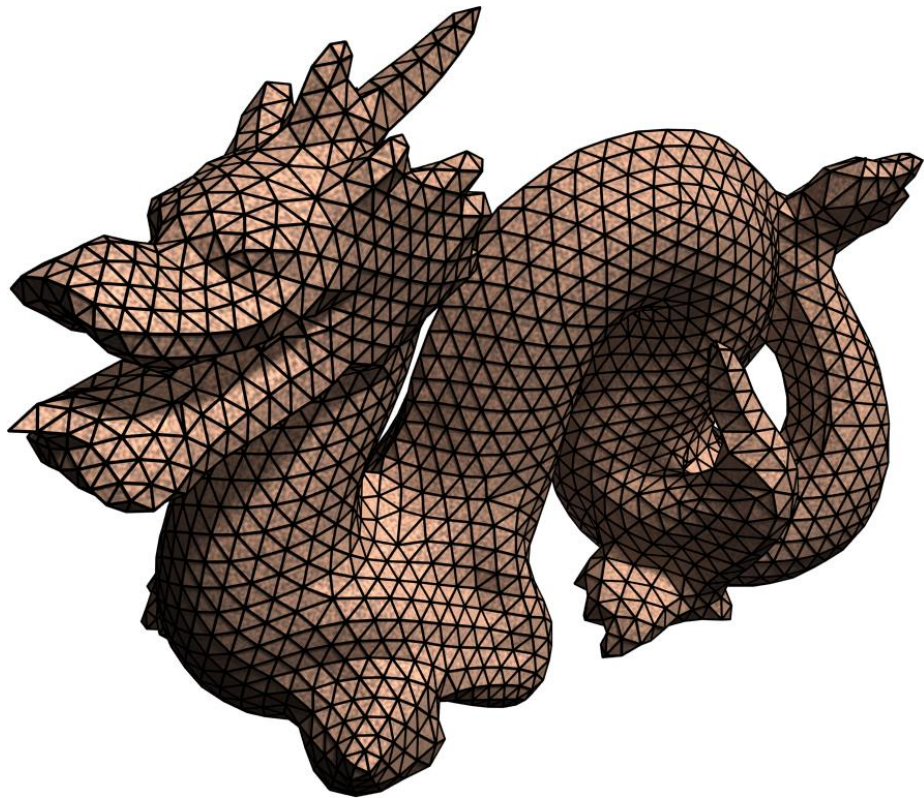
Malhas Poligonais – Nível de detalhes



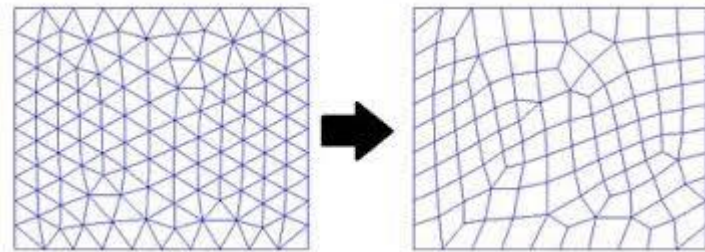
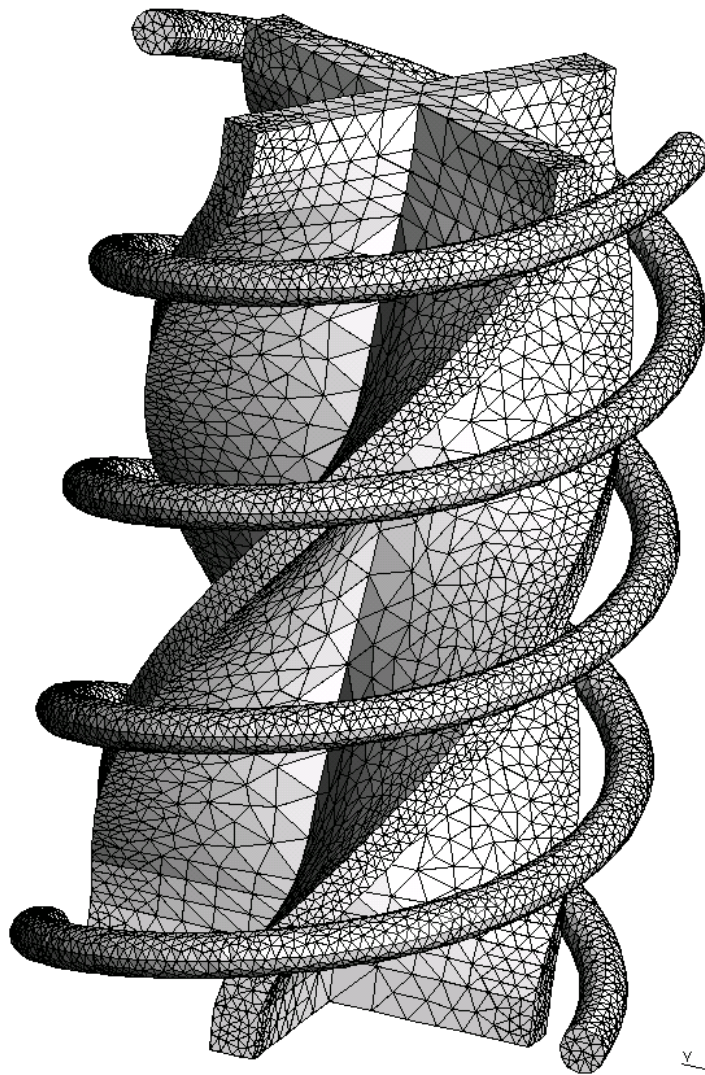
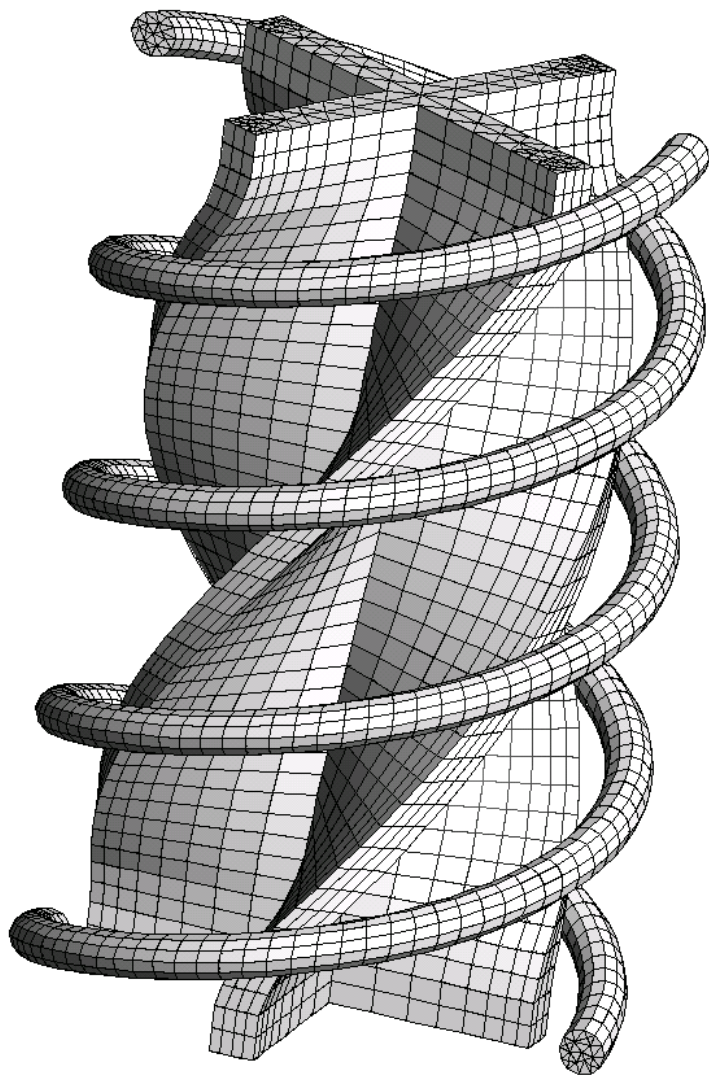
Malhas Quadrangulares



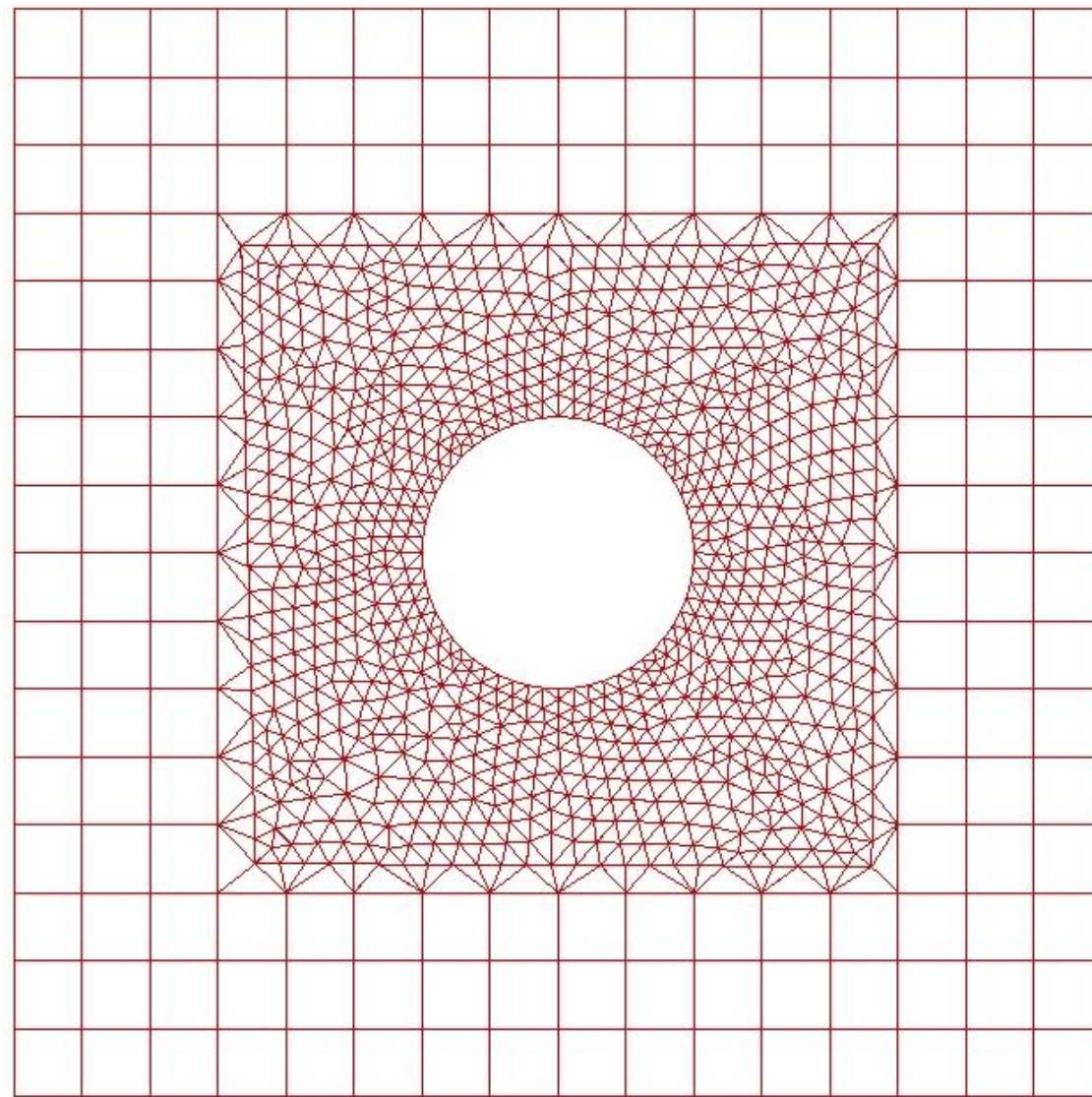
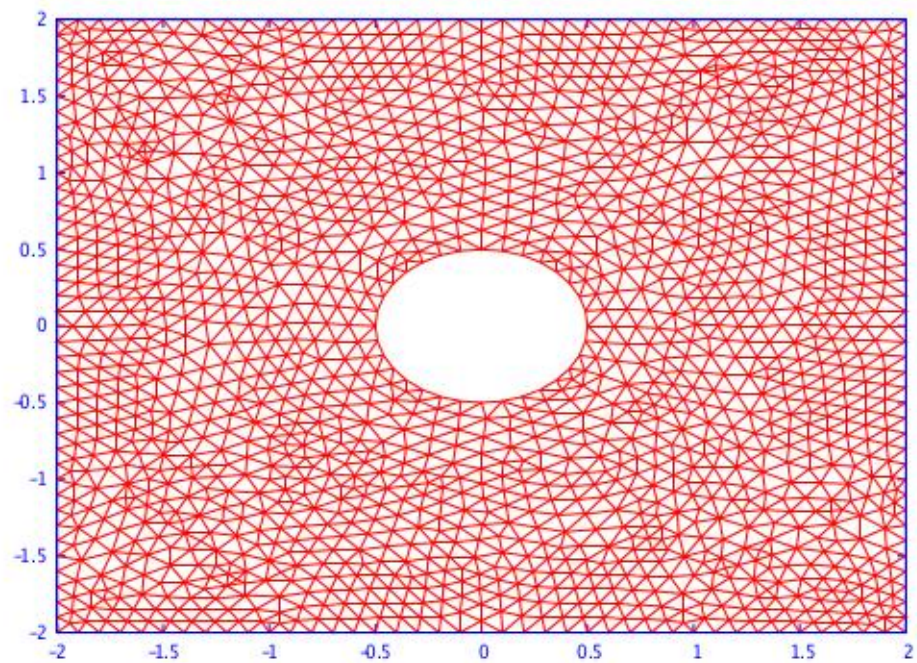
Malhas Triangulares



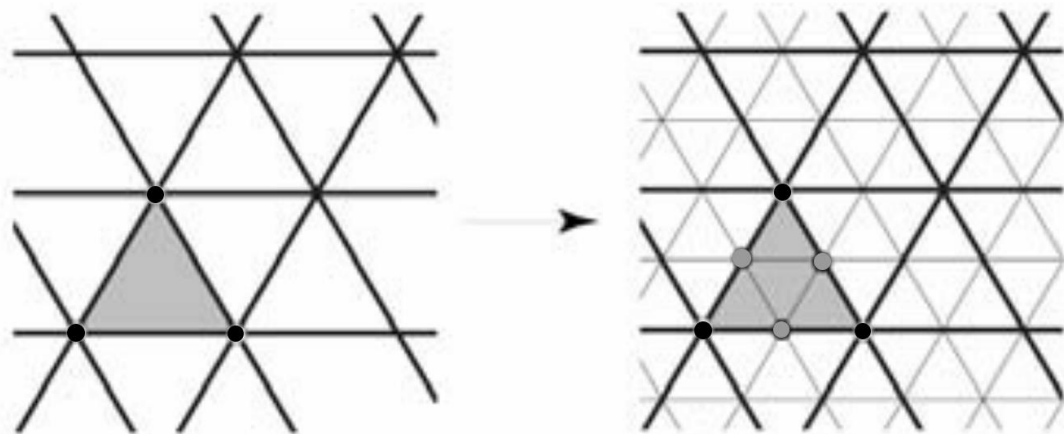
Qual usar?



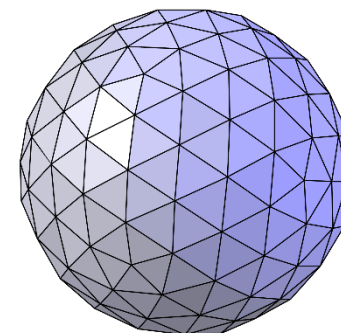
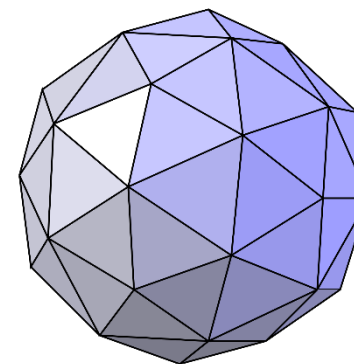
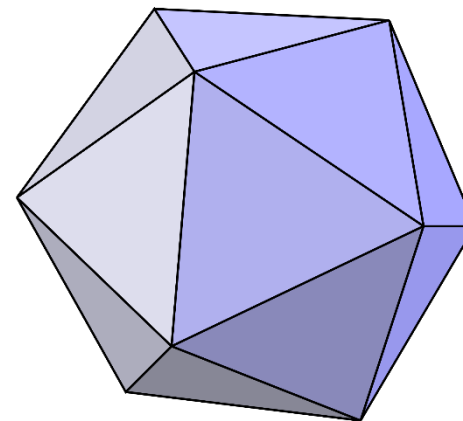
Qual usar?



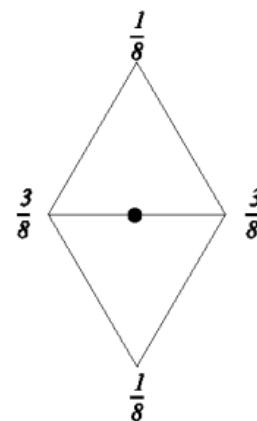
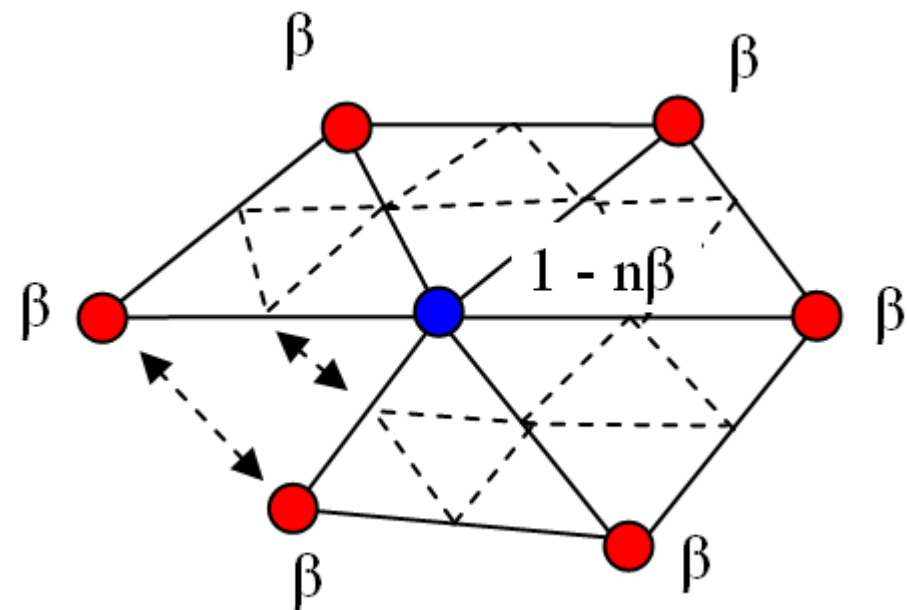
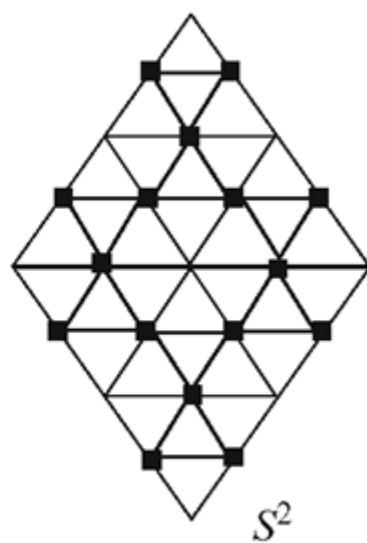
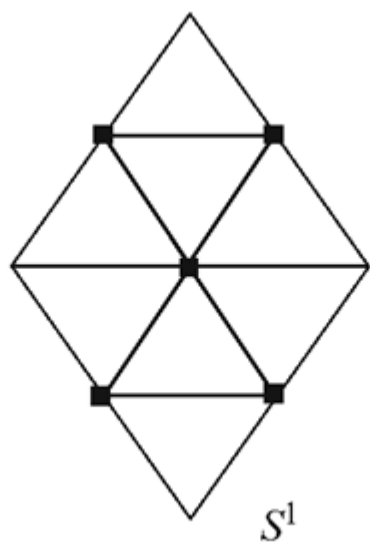
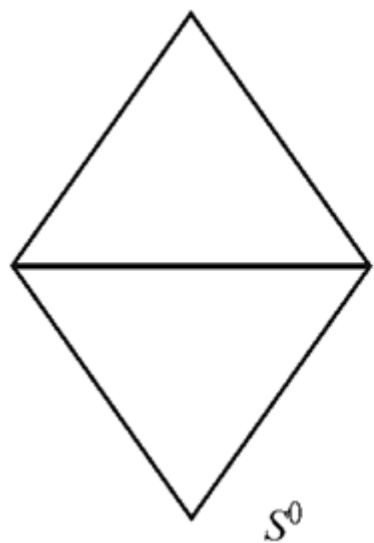
Subdivisão de superfícies



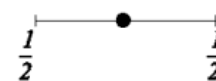
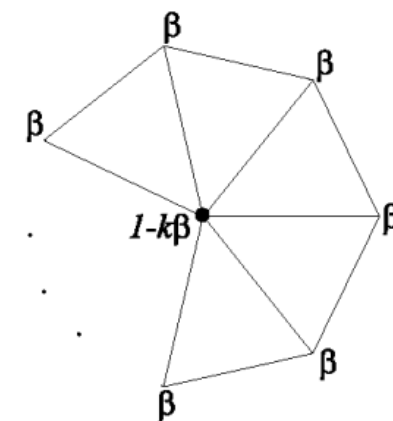
Face split for triangles



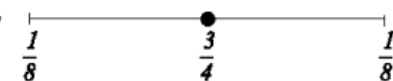
Subdivisão de superfícies



Interior



Crease and boundary



Subdivisão de superfícies

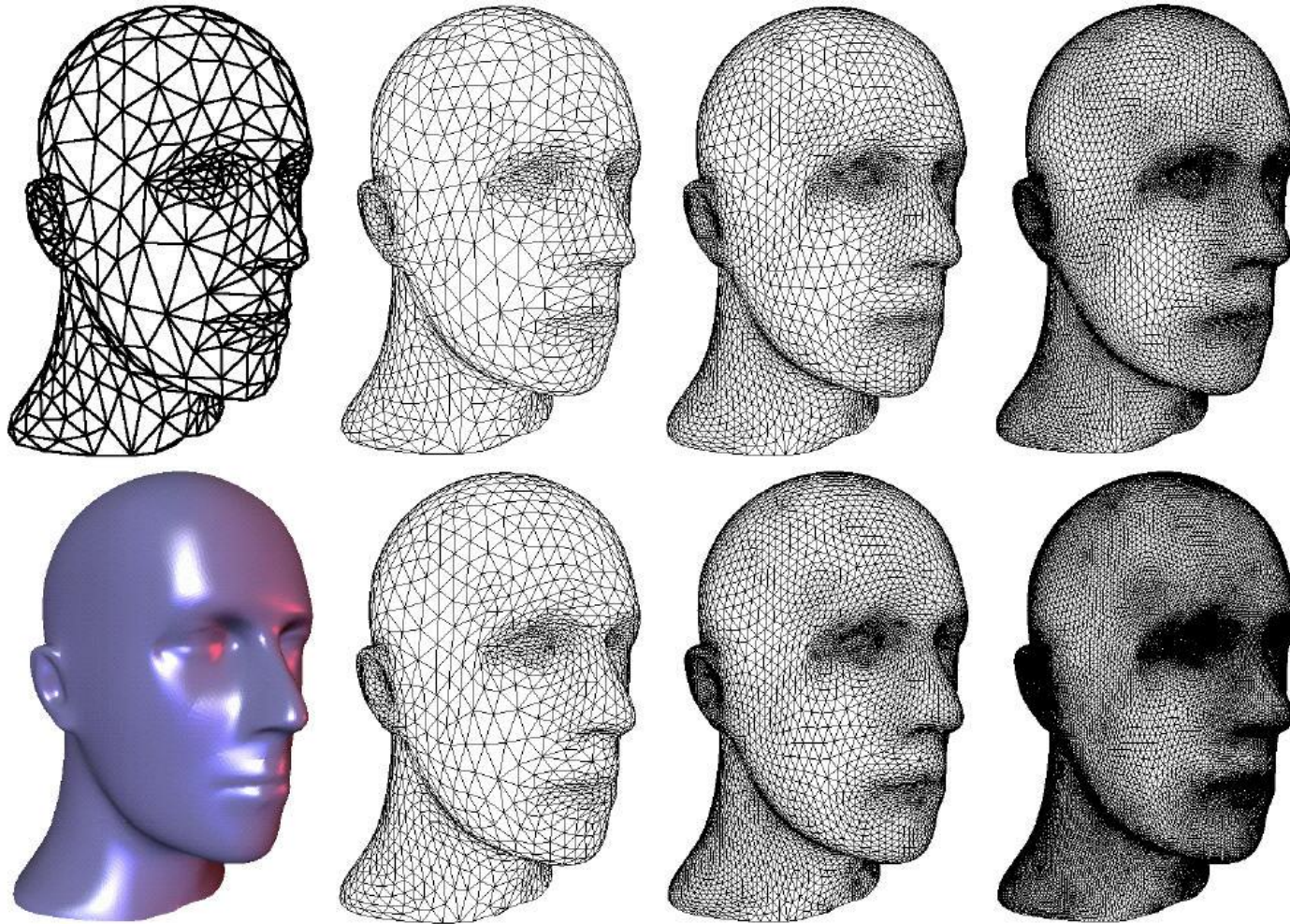


Figure 13: Sequences of meshes generated by the $\sqrt{3}$ -subdivision scheme (top row) and by the Loop subdivision scheme (bottom row). Although the quality of the limit surfaces is the same (C^2), $\sqrt{3}$ -subdivision uses an alternative refinement operator that increases the number of triangles slower than Loop's. The relative complexity of the corresponding meshes from both rows is (from left to right) $\frac{3}{4} = 0.75$, $\frac{9}{16} = 0.56$, and $\frac{27}{64} = 0.42$. Hence the new subdivision scheme yields a much finer gradation of uniform hierarchy levels.

Subdivisão de superfícies



Subdivisão de superfícies

