Unit 1
Geometric Modeling

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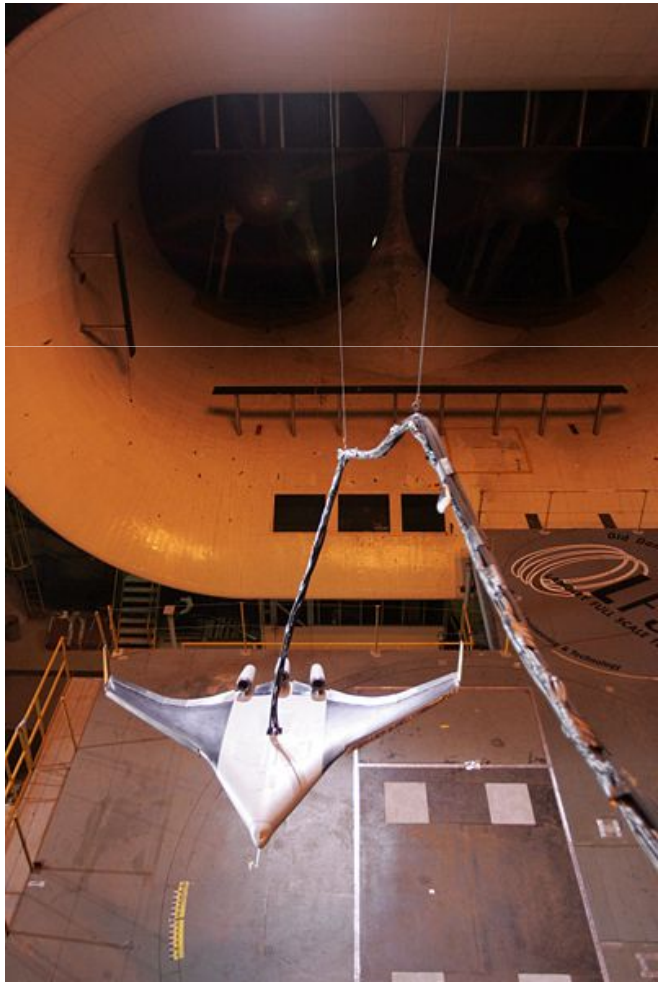
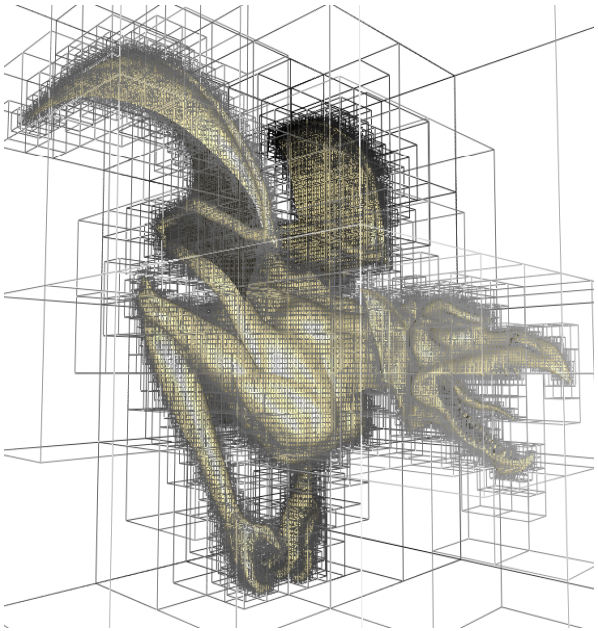
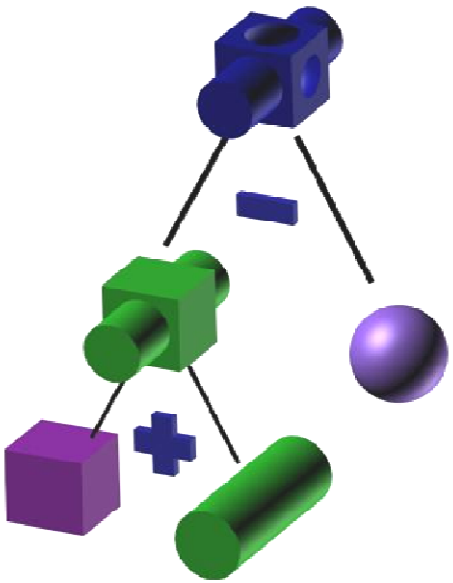
Physical models

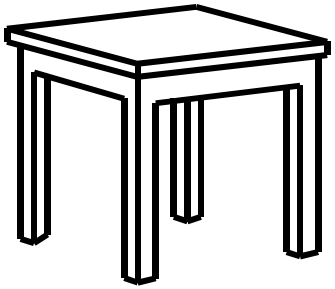


Geometric models





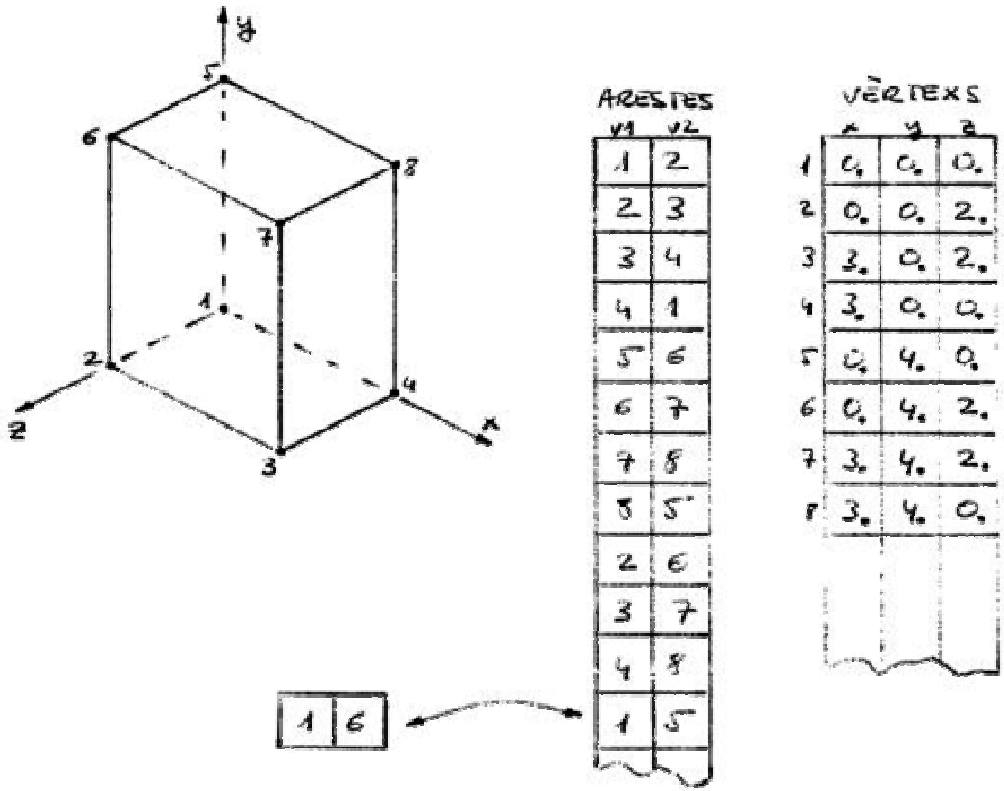
Levels in geometric modeling

Physical object	Math model	Representation	Data structure
	Set of all the points belonging to the object	BRep  cares: 1 0 4 8; vèrtexs: X Y Z	class Object { vector<Vertex> vertices; vector<Face> faces; }; class Face { vector<int> indices; ... }; ...

Wireframe representation

Object: collection of edges

- Edge: two pointers to its endpoint vertices
- Vertex: (x,y,z) coordinates, etc.



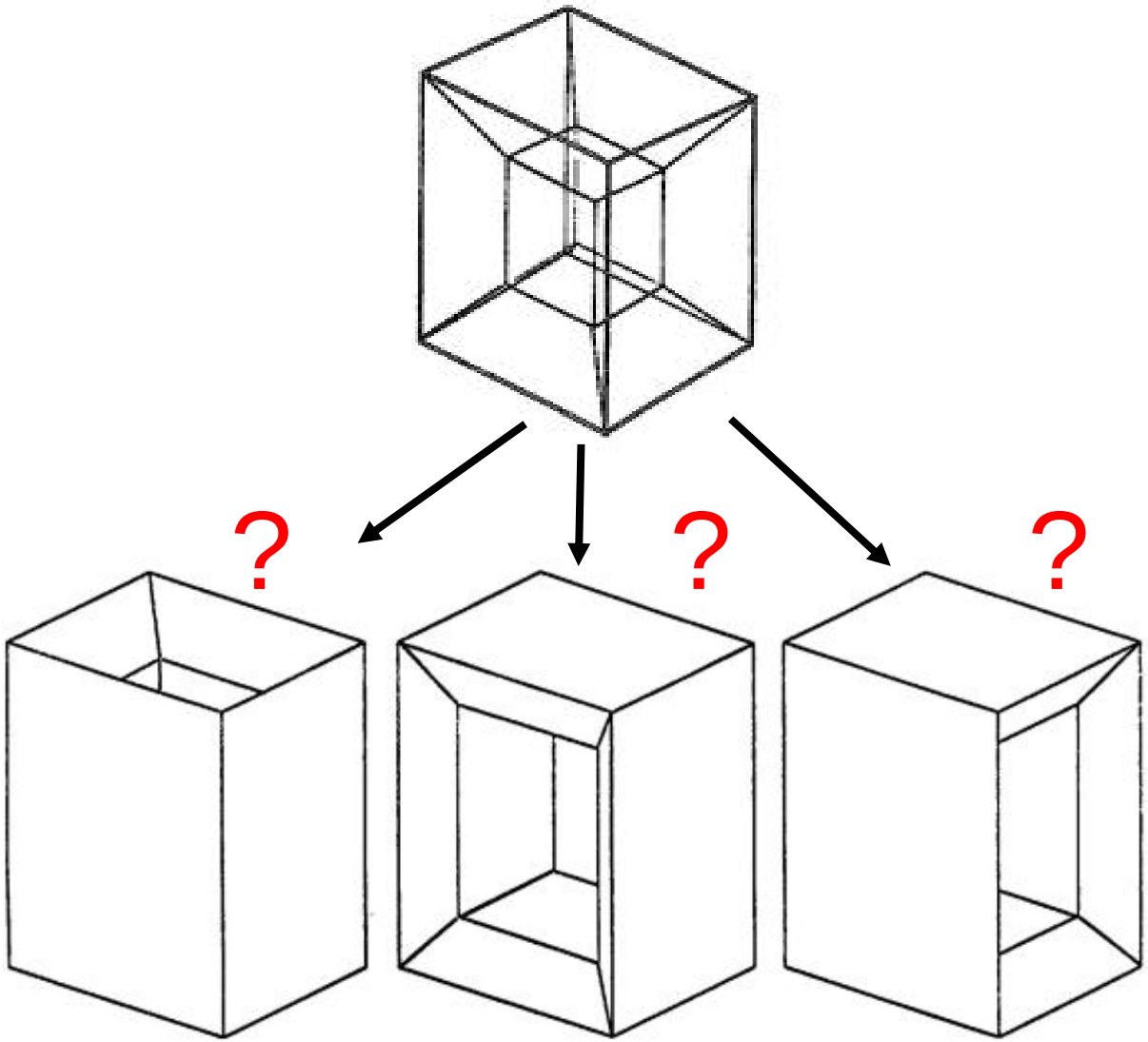
Wireframe representation

Object: collection of edges

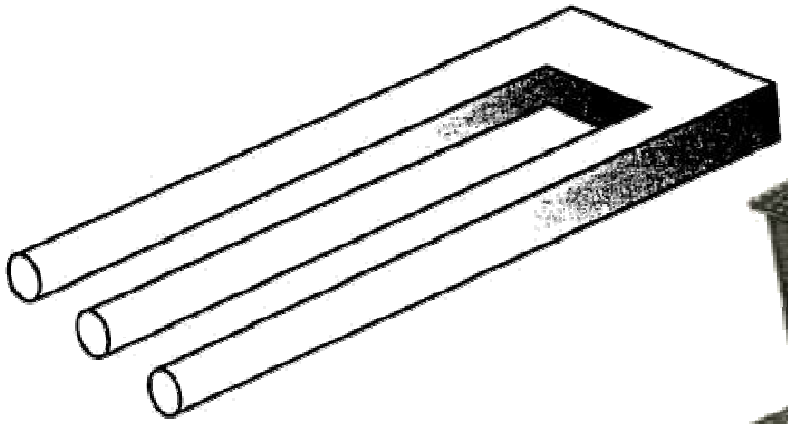
- Edge: two pointers to its endpoint vertices
- Vertex: (x,y,z) coordinates, etc.

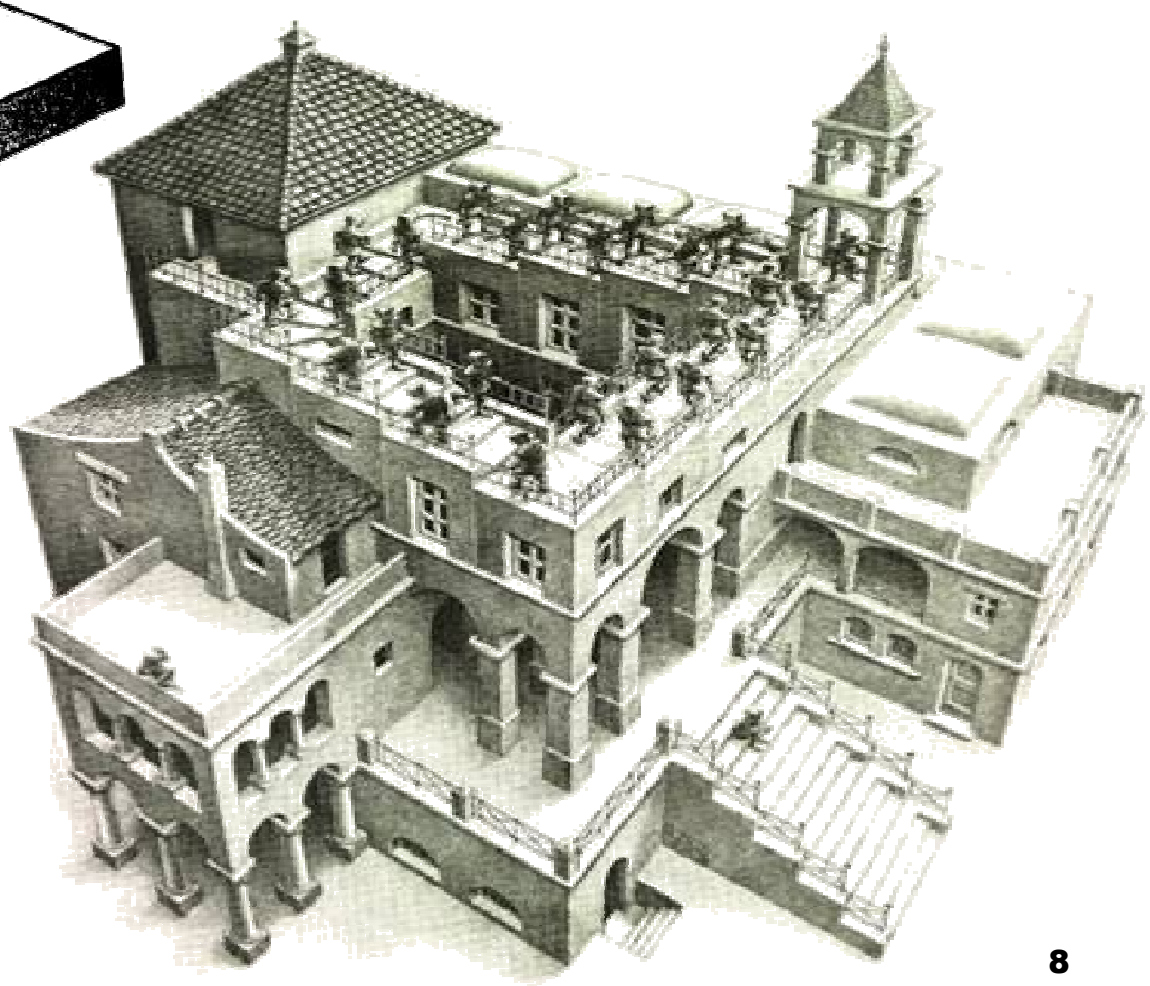
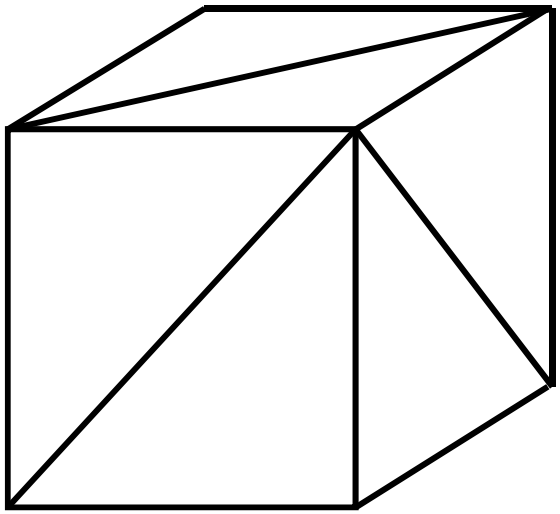
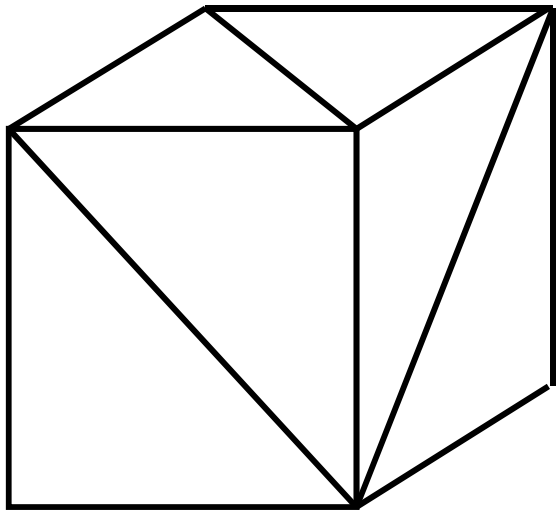
http://theflirtyguide.blogspot.com.es/2008/10/wire-horse-sculpture.html

Ambiguous model



Non-valid model





Non-unique model