Amapi 6.0
Release-notes

Friday, 21 December 2000

Summary

1   Import/ Export

New formats had been added to the Amapi 3D imports:
♦   IGES (update)
♦   Open Inventor
♦   STL
♦   Wavefront OBJ

Amapi 3D V6 exports files with the format Wavefront OBJ format.

2   The dynamic geometry
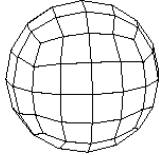
Almost tools now supports the dynamic geometry.

3   The Tools palette

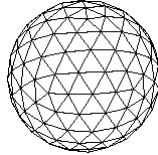## 3.1   The construction palette

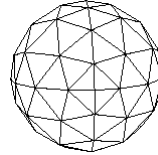### 3.1.1   The 3D primitives

❑ The geodesic spheres:

The « sphere » tool allows you to create geodesic spheres:
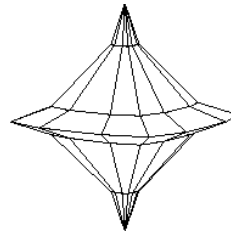
*Geodesic sphere
Based on a cube*

*Geodesic sphere
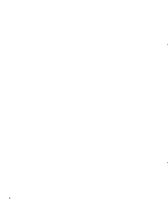Based on an icosaedron*

*Geodesic sphere
Based on an octaedron*

❑ The Superellipsoïd :

The superellipsoïde tuning is done through two coefficients
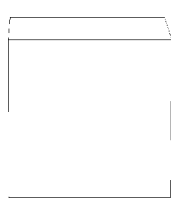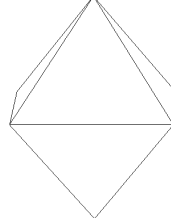(Coeff1 & Coeff2).

❑ Les Platonicians

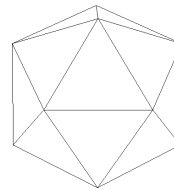This new tool allows to create the following 3D primitives :

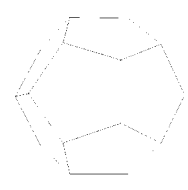*tetrahedron*   *cube*   *octahedron*   *icosahedron*   *dodecahedron*

❏ HeightFields

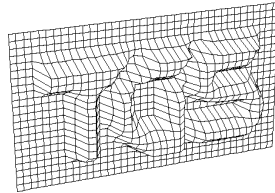This tool allows you to transform a grey levels 2D picture to a 3D object.
How it works :
Select a grey levels picture and one shape.
Amapi 3D maps the picture on the shape and move the points of the shape to give it relief. This displacement is done depending the color of the area: clearer the color, greater the altidude. The darker points will remains at the altitude zero.
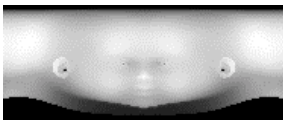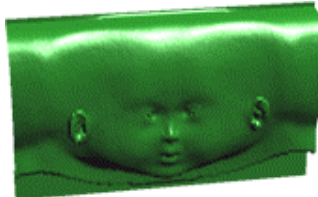

A= Grey levels 2D picture   *Picture A converted in a 3D object*   ⇒

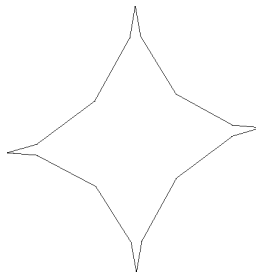*B = Grey levels 2D picture*   *B'= Picture B converted in a 3D object and rendered*   *B' object wrapped on a cylinder*
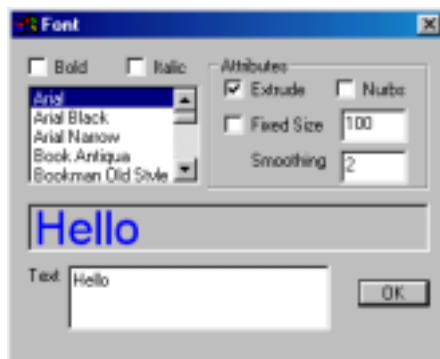
3.1.2   Drawing

❏ Superellipse

With the circle tool, you may draw a superellipse right now.
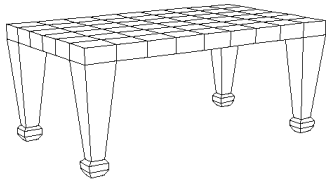

3.1.3   Text

The text tool allows you to type a text with setting the font size.
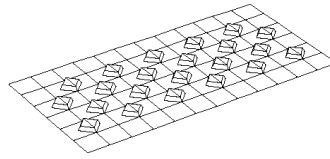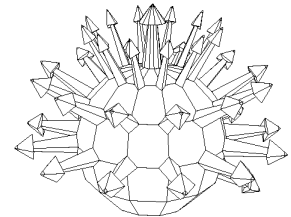In this new version you may smooth the characters too.

3.1.4   Extrusion

You may now extrude facets, edges and vertices.

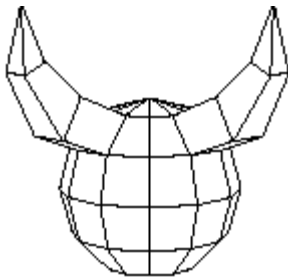|		
Facet extrusion	*Edge extrusion*	*Vertex extrusion*

3.1.5   Sweep

You may now sweep facets, edges and vertices.
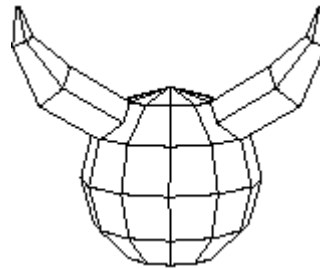
Facets sweeping	*Edges sweeping*	*Vertices sweeping*
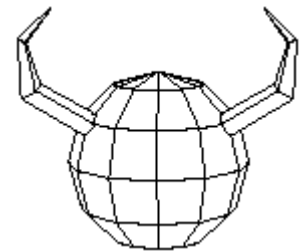
3.1.6   Gordon surfaces

Allow to control the tensions of the curves.

3.2   The modelling palette

3.2.1   The Global deformers

The Global deformers are four now, since we have added the Spherization. The purpose of this tool is to make the object to trend to a spheric shape

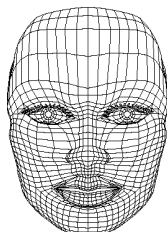|				
Original object	*Bent object*	*Twisted object*	*Tapered object*	*Spherized object*
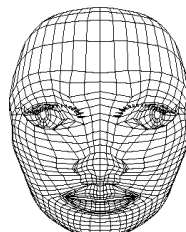
Original object	*Object lightly spherized*	*Object strongly spherized*	*Spherized object*
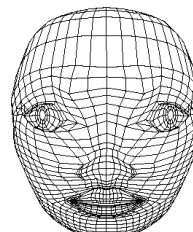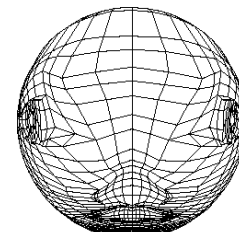
3.2.2   Wrap

The «Wrap» tool allows you to wrap an object on a (predefined) shape (grid, cylonder or sphere).

Exemples :

predefined shape

Current object to be wrapped

Object wrapped on the shape

⇒ *Decreasing the wrapping of the surface.*

Setting the height of the shape

Setting the radius of the shape

Setting the altitude (object thickness)

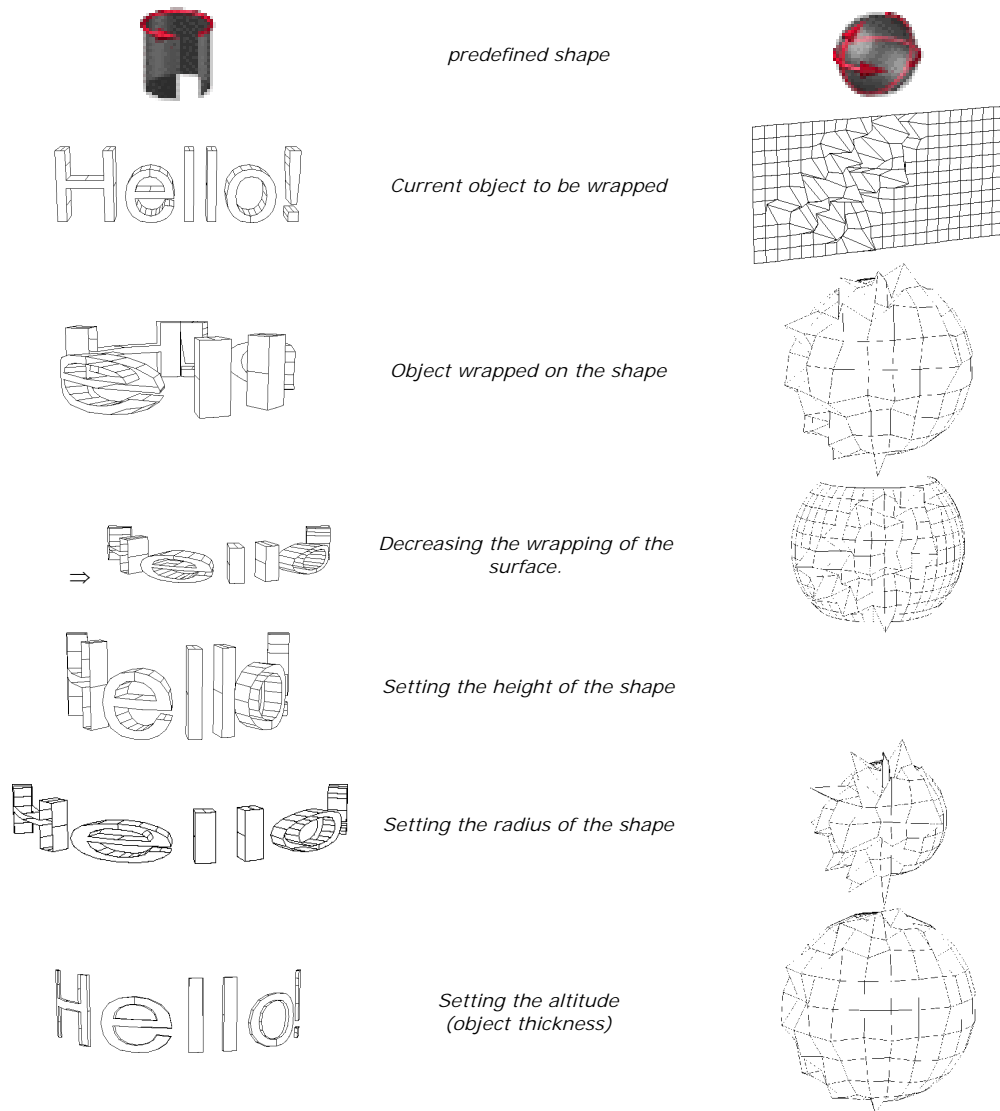### 3.2.3   Smooth

♦ You may now control the tensions of the curves after smoothing.

♦ **Two new curves smoothing methods have been added**:
  ♦ Chaïkin smoothing
  ♦ Cubic smoothing

3.2.4   Tesselate

Two new methods have been added to the Tesselate tool :
♦ The "Diamond-shaped" tessellation
♦ The "Adding a slice" tessellation

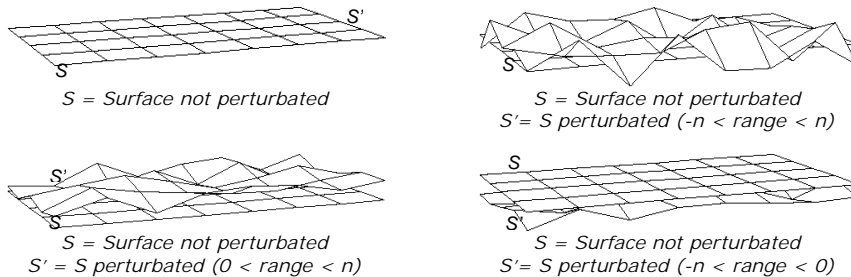| *Original object* | *Rectangular tessellation* | *Triangular tessellation* | *Diamond-shaped tessellation* | *Adding a slice tessellation* |
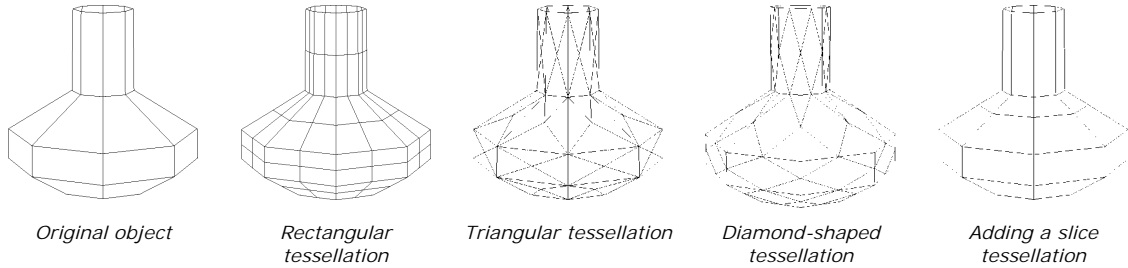
3.2.5   Bringing objects into relief

The « Bringing objects into relief » tool allows you to perturbate surface. It includes two subtools:
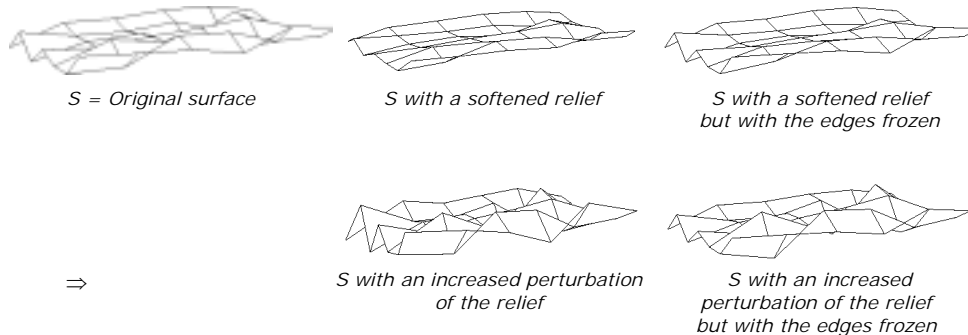♦ **Bump**
♦ **Soften**

❏ Bump

The Bump tool moves the points of a surface, on the both sides of it, in view to give it some relief.
The amplitude range of the points moving is randomly worked out, but always without trespassing the limits of the range you had set

S = Surface not perturbated

S = Surface not perturbated
S'= S perturbated (-n < range < n)

S = Surface not perturbated
S' = S perturbated (0 < range < n)

S = Surface not perturbated
S'= S perturbated (-n < range < 0)

❏ Soften

The « Soften » tool allows you to decrease or increase the perturbations of a surface.

S = Original surface

S with a softened relief

S with a softened relief but with the edges frozen

⇒

S with an increased perturbation of the relief

S with an increased perturbation of the relief but with the edges frozen

3.3 The assembly palette

3.3.1 Scale

You may scale an object size, by setting :
- A scaling percentage
- A surface to be reached
- A volume to be reached

4 Modellisation helping

To get a better ergonomy, a set of new « depicting cursors » will give you informations about the current work.

	Selection by elements		Selection by groups of elements
	One by one	Several (with the Shift key)	
Objects *(the Wand)*			
Facets			
Edges			
Points			
Reference points			

5   Rendering

The Materials Editor has got a new look, making easier the work on the materials.

The 3Space dynamic

3Space is a technology allowing to create 3D animations for the web Amapi 3D allows to mix physic parameters and objects interactive behaviours, then generate HTML, XML and ZAP files. They may be browsed with a web navigator (Internet Explorer 5.x or Netscape Navigator 4.x). For more information, see www.tgs.com/3Space