

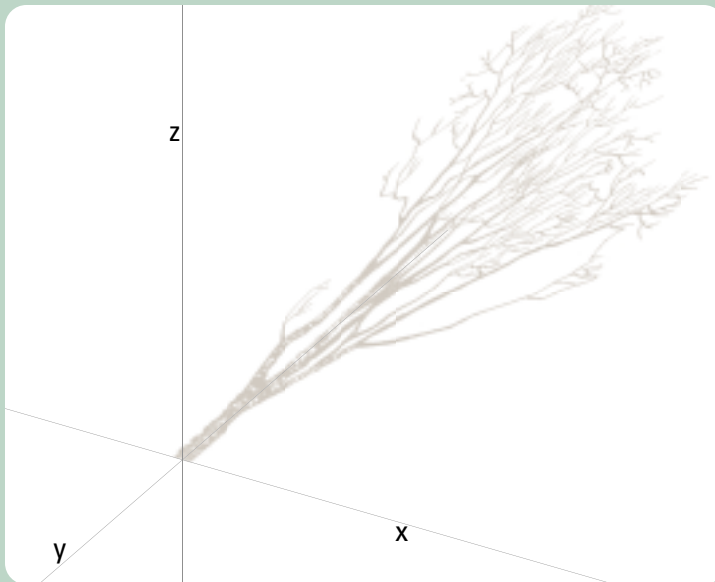
# BILLBOARD

**Objectives:** To illustrate the procedure for constructing 3D representations of vegetation using simple surfaces as "billboards."

**Inputs:** Closed polygonal surface – complex or simple.

High resolution image of plant material to be modeled/rendered. (\*.tif, \*.tga, \*.jpg). For accurate branching and habit consult a reference such as Hightshoe's "Native Trees Shrubs and Vines for Urban and Rural America."

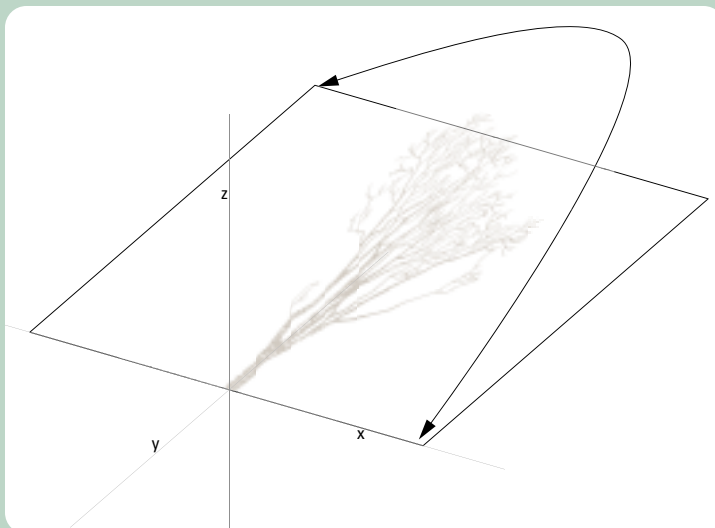
**Note:** When generating or scanning the image of the plant material to be represented, take note of whether or not the image or plant is symmetrical. Trees with a central leader, are more successfully represented in this manner when compared to the multistemmed forms of understory trees.



**Process:**

1. Tracing the tree image for accurate proportion or "true" habit configuration.

In the CAD or modeling application – place the image of the tree as an "underlay" so that you can trace its outline for accurate proportion of height to width. This can also assist in the setting the right proportions for mapping coordinates when anticipating that the tree image will be used as rendering material.

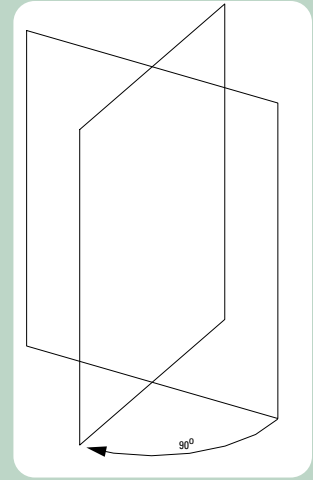
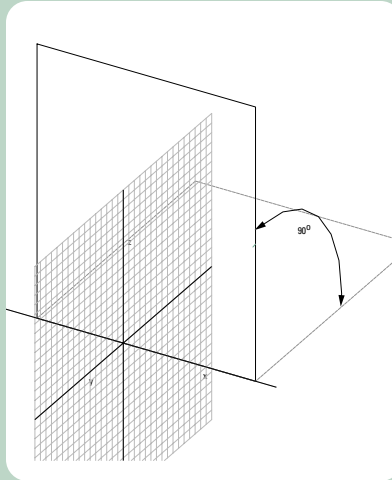


2. Using the rectangle or simple polygon command – construct a closed surface in the proportion of the "tree" on the XY construction plane.

3. Check the dimensions of the tree form, and scale as necessary.

4. Rotate the polygon, so that it is

*perpendicular to the XY construction plane. You now have a simple billboard form. Depending on the complexity of your model and whether the tree is symmetrical or not you can copy the billboard around its midpoint to provide the illusion of three dimensions.*



*5. The billboard or billboards can then be moved to appropriate location in the model, and assigned a rendering material. It is suggested that you create a symbol, group, or block, after the material is assigned and then replicate throughout the model as designed.*

