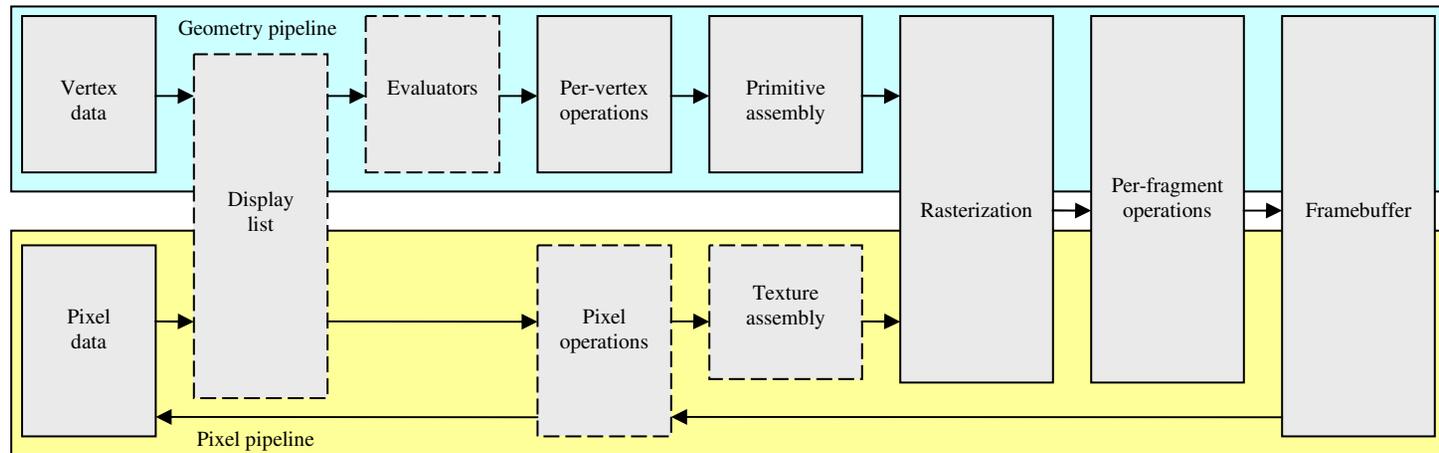


OpenGL is a state machine (example state variables: the current drawing color, the current raster position, the current line width). Much of OpenGL programming consists of altering the state as needed. Some state variables refer to *modes* that can be enabled or disabled using `glEnable()`, `glDisable()`. Example: `glEnable(GL_DEPTH_TEST)`. State can be queried with `glGet*()`

The OpenGL Geometry and Pixel Pipelines:



- |                      |  |                    |  |
|----------------------|--|--------------------|--|
| Vertex data -        | 2D, 3D, 4D geometry  | Pixel data -       | images, bitmaps                              |
| Display list -       | vertex or pixel data saved for later use   |                    |  |
| Evaluators -         | a method for drawing curves and surfaces   |                    |  |
| Per-vertex ops -     | modeling transformations, lighting calculations, generate texture coordinates  | Pixel ops -        | format conversion, scaling, biasing, mapping |
| Primitive assembly - | clipping, viewing transformation, viewport transformation, polygon culling, selection  | Texture assembly - | build, store, prioritize textures            |
| Rasterization -      | conversion of geometric and pixel data to "fragments" ("scan conversion")  |                    |  |
| Per-fragment ops -   | texturing, fog, antialiasing, scissor test, alpha test, stencil test, depth test, blending, dithering, logical operations, bitmasking ... to convert fragments into pixels |                    |  |
| Framebuffer -        | Color, depth, stencil, accumulation  |                    |  |