CSC418 Tutorial
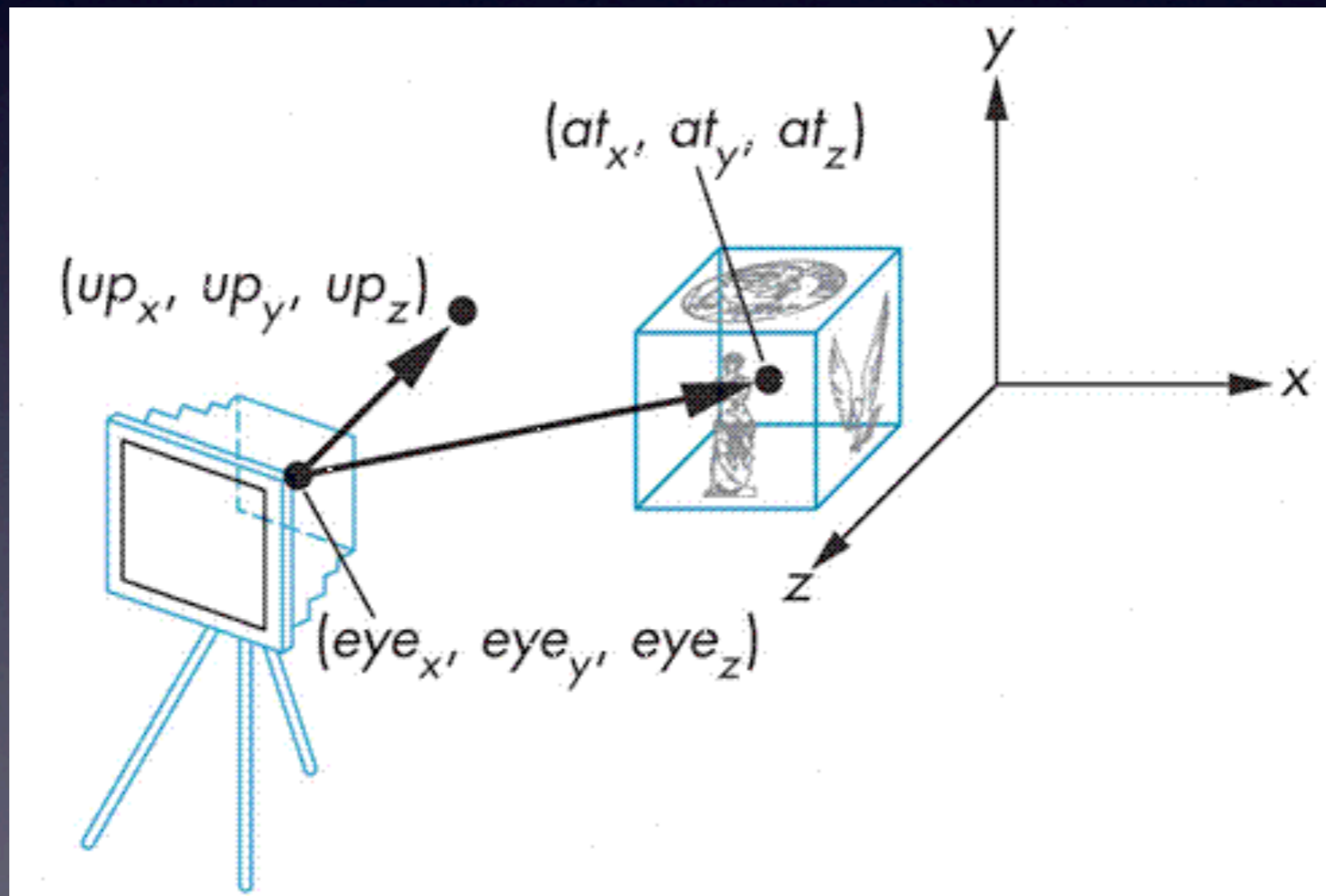
Oct. 26 2011

Chung-Lin Wen

Outline

- Camera setting and movement

- Lighting and shading

Camera Setting & Movement

- gluLookAt(eye[x, y, z], center[x, y, z], up[x, y, z])
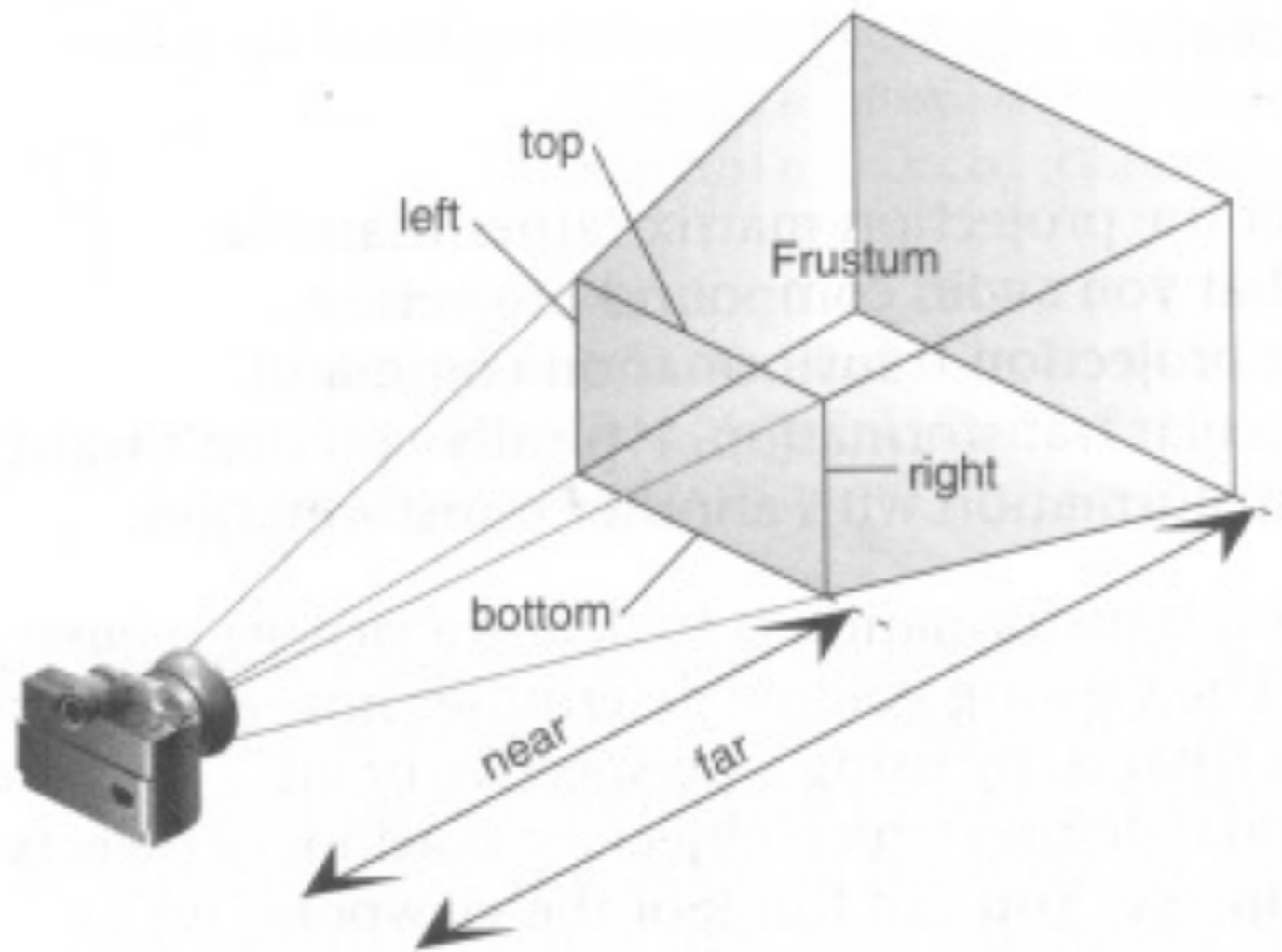
Camera Setting & Movement

- cube.c

Perspective v.s Orthographic

- Perspective: with foreshortening. i.e., the farther, the smaller

- Orthographic: without foreshortening
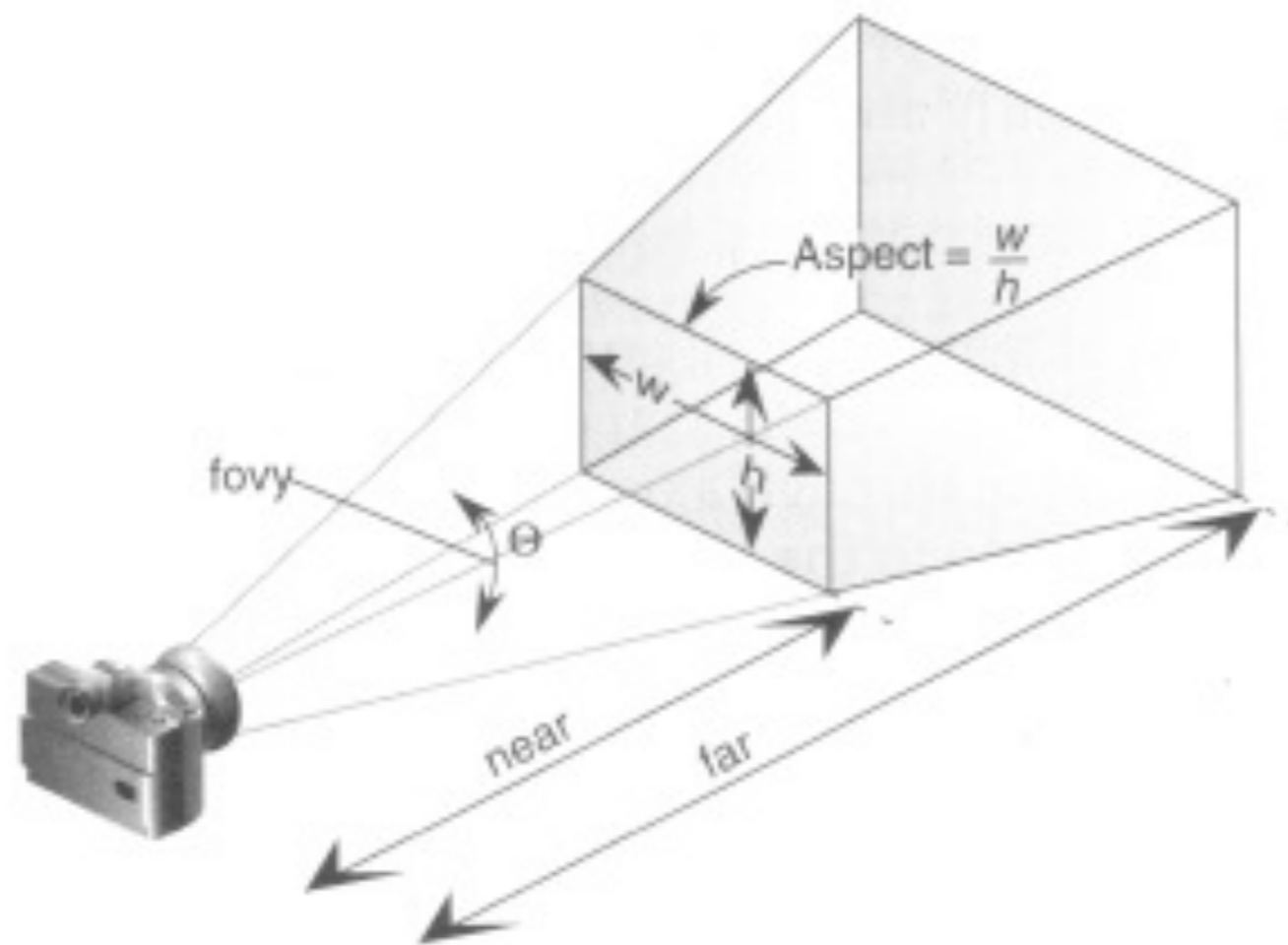
Perspective

- glFrustum(left, right, bottom, top, near, far)

Figure 3-13   Perspective Viewing Volume Specified by glFrustum()
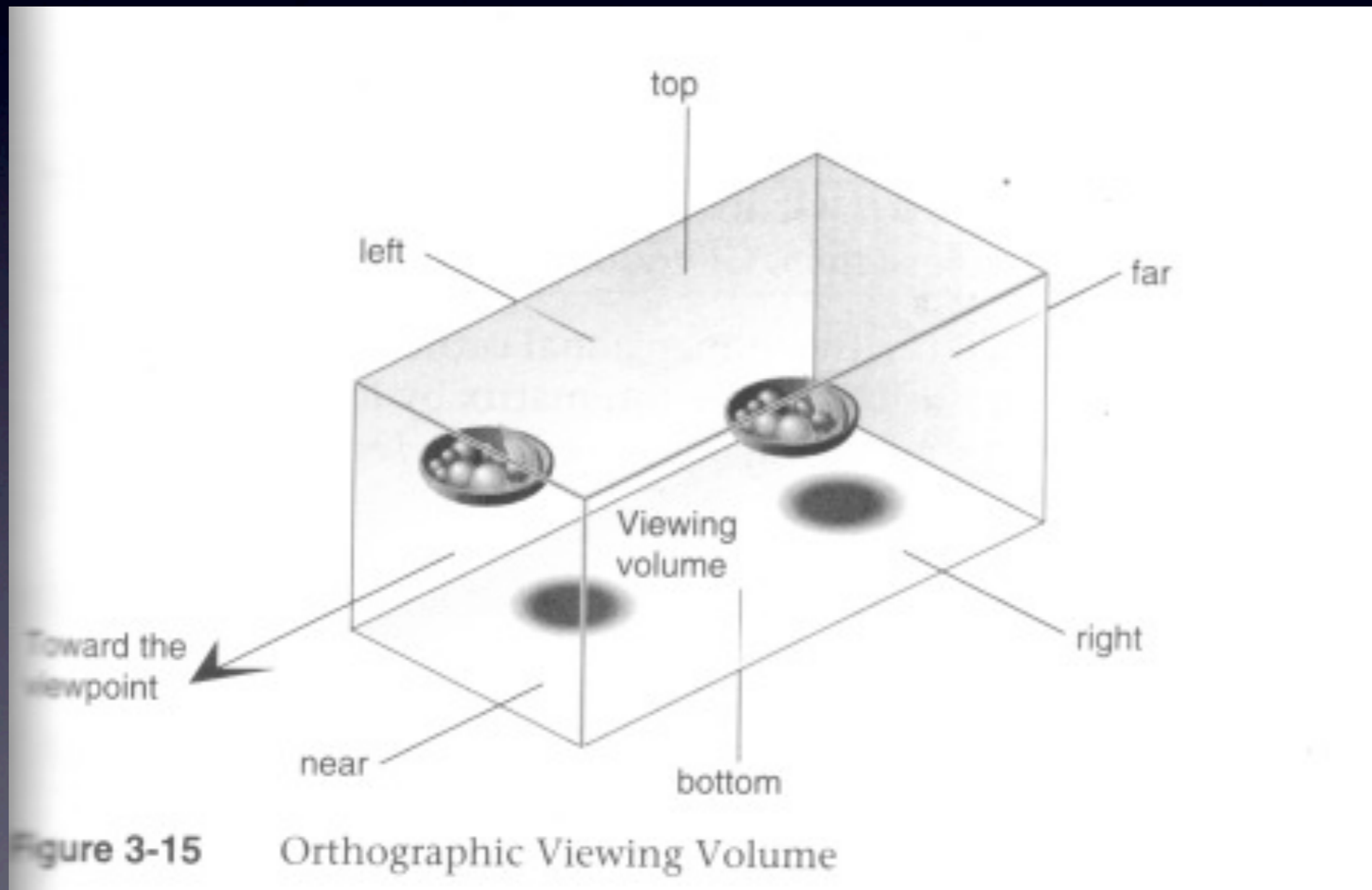
Perspective

- gluPerspective(fovy, aspect, near, far)

Figure 3-14   Perspective Viewing Volume Specified by gluPerspective()

Orthographic

- glOrtho(left, right, bottom, top, near, far)

Figure 3-15 Orthographic Viewing Volume

Lighting & Shading

- What lighting is used?

- How objects reflect the light?

Lighting

- glLight(GLenum *light*, GLenum *pname*, TYPE *param*)

- *light*: GL_LIGHT[0-7]

- *pname*: GL_AMBIENT, GL_DIFFUSE, GL_SPECULAR, etc.

Material

- glMaterial(GLenum *face*, GLenum *pname*, TYPE *param*)

- *face*: GL_FRONT, GL_BACK, GL_FRONT_AND_BACK

- *pname*: GL_AMBIENT, GL_DIFFUSE, GL_AMBIENT_AND_DIFFUSE, GL_SPECULAR, etc.

Lighting & Shading

- light.c

Example Code

- Example code discussed today can be found at ftp://ftp.sgi.com/opengl/opengl14.tgz

- Nate Robin's tutorial: http://www.xmission.com/~nate/tutors.html

Questions?

Contact

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