# Environment Mapping



NVidia

# Spherical Environment Maps



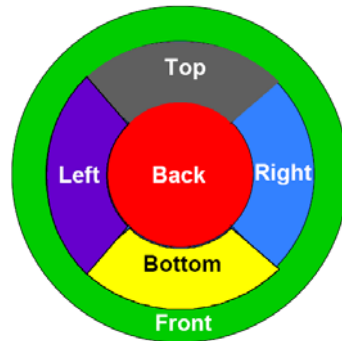Figure 67. Sphere Map Coordinate Generation
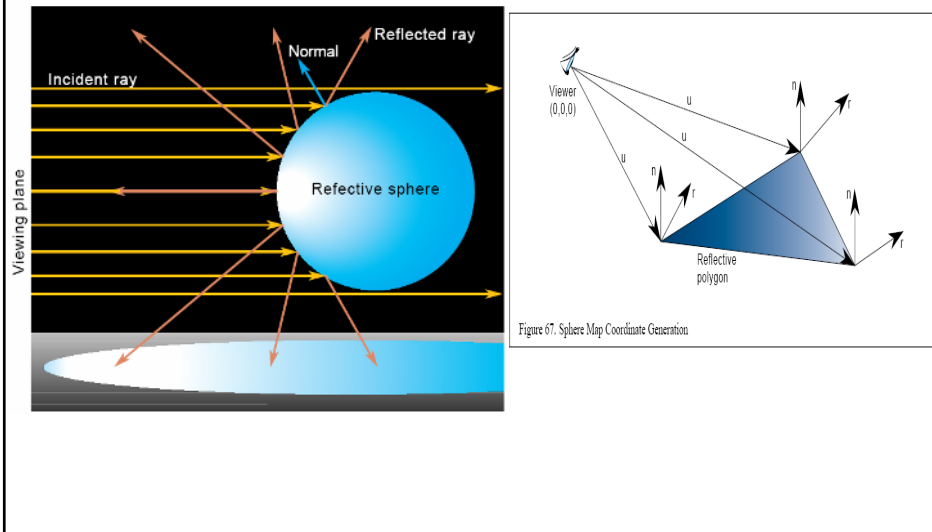
# Sphere Mapping Demos

# Spherical Environment Maps

- Pros:
  - Single texture (no "if's")
  - Triangles don't span texture boundaries
    - Per-vertex computation!
- Cons:
  - Bad sampling
  - Only works for single viewpoint / view direction



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# Gene Miller

# In practice

- Shiny spheres
  Gene Miller
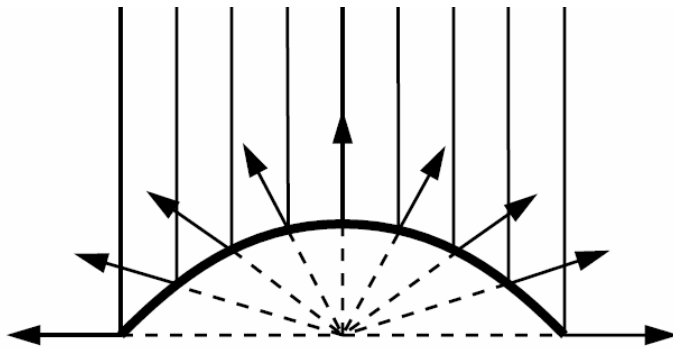
- Interface
  (L. Williams 1985)
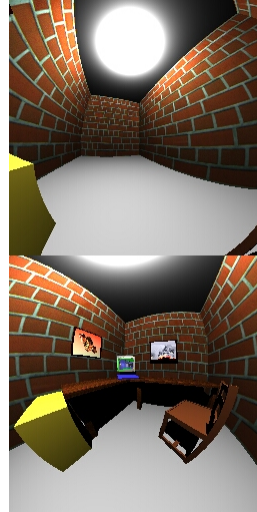


- Terminator 2 (1991)

# Gerri's Game

# Story of Reflection Mapping

# Parabolic Environment Maps

# Parabolic Environment Maps



# Nayar '97

# Cube Environment Maps

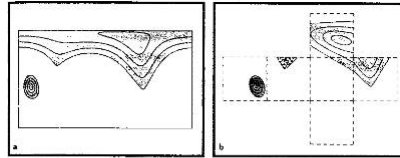- Per-fragment
- Suported in HW
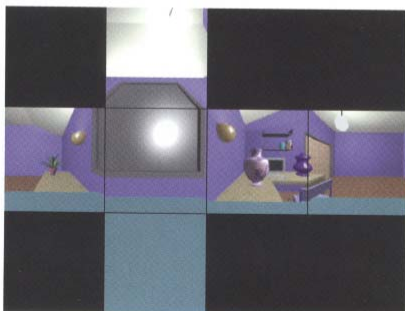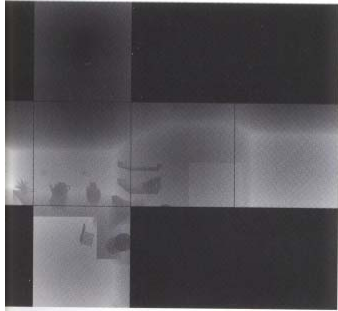- No warp
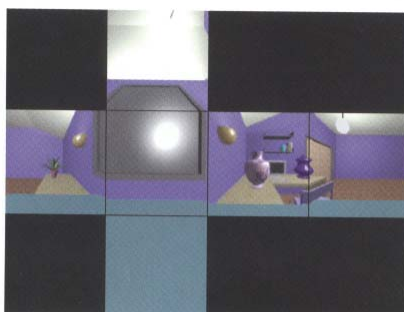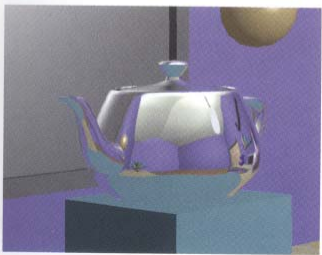  (perspective maps)
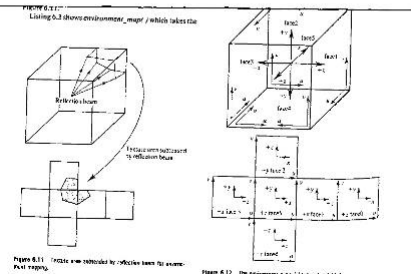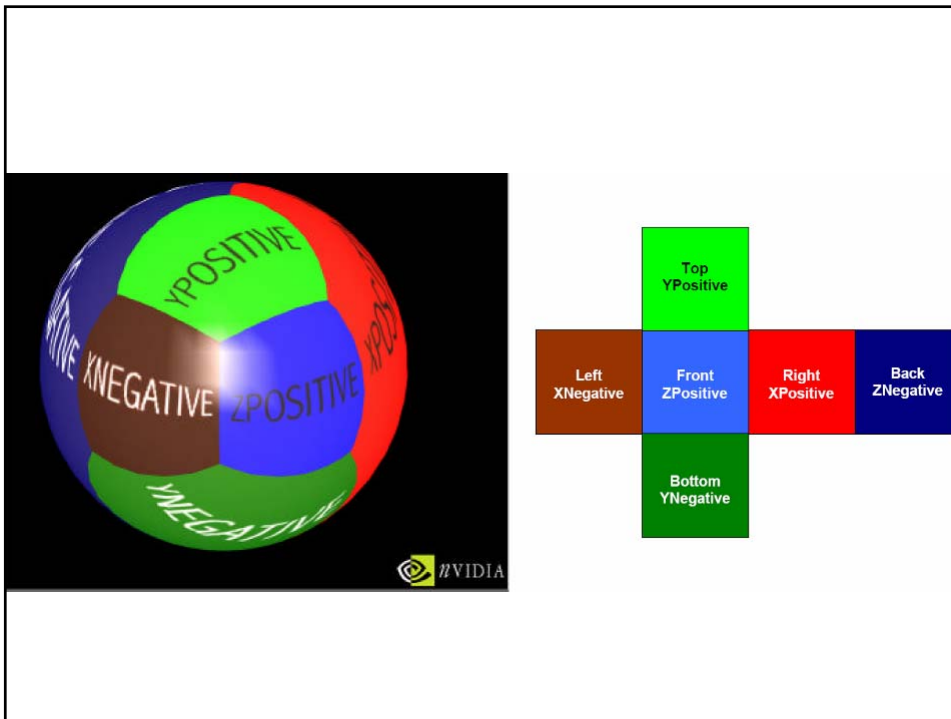
# Nvidia Cube Mapping
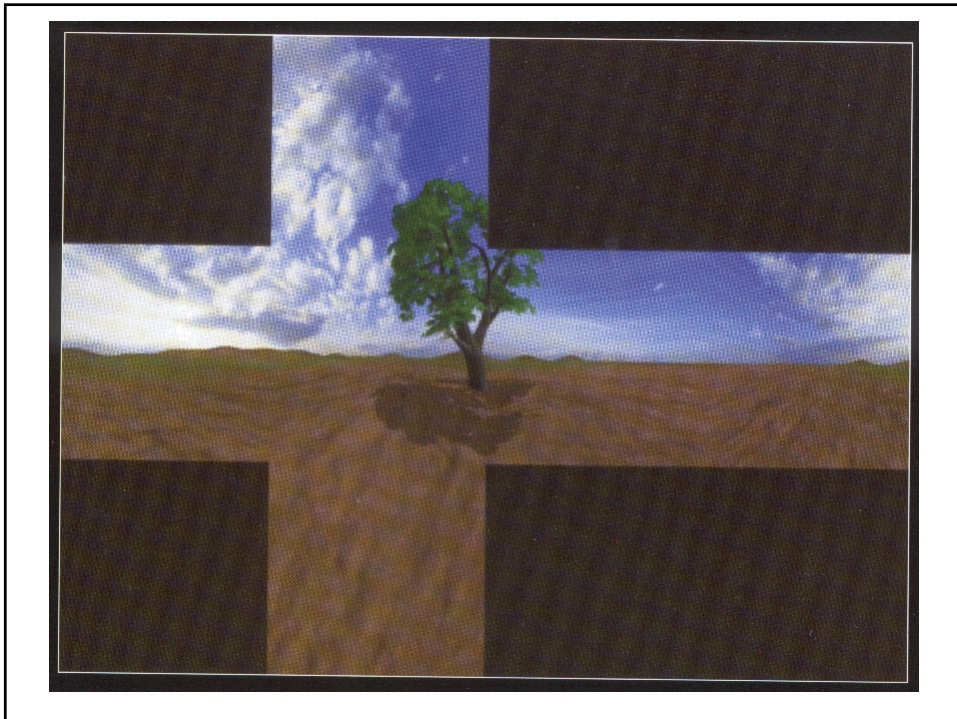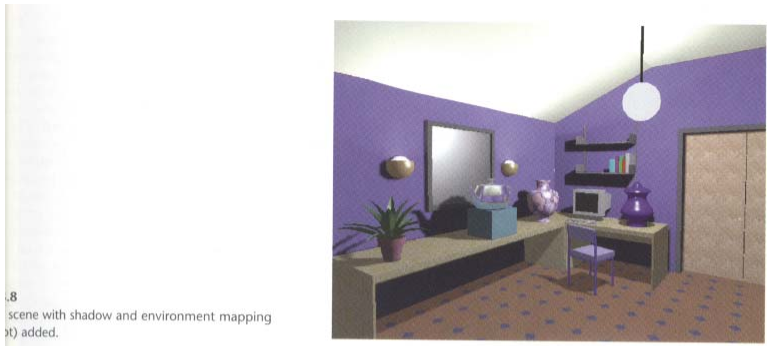
.8
scene with shadow and environment mapping
ot) added.



Environment map



9
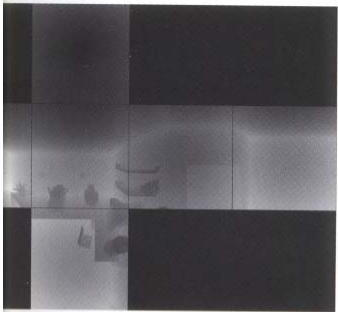
# Paul Debevec

- St. Cross
- Panorama stiching
- Cube projection



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