* Shape from shading information: grayscale intensities can determine 3D shape of object
  + Light source will cause surface closest to it to be brighter and the other part remain in shadow
  + Photometric stereo, where the person projects patterns onto the image and measure its position on the image to determine depth information
    - A type of structured lighting
    - Grid of lines doesn’t contain that much information as parallel lines tell you the same exact thing
    - Spots take computation
    - Connected lines have a lot of coding information
  + The book was talking about it as if there is a guaranteed light source, which I can understand, but what I’m more curious about is how they specified one light source. Will the proposed methods result in lower accuracy when the image has multiple light sources? Would it make a false positive in determining the orientation of the light source, as it assumes there is only one, rather than several? Or will it not matter and somehow use the variance in lighting to determine there are multiple light sources and recursively search for them?
  + Principle behind the technique is modeling the reflectance of objects in an image as a function of angles of incidence, i, and emergence, e, of light from the surface
    - Does this heuristic vary depending on the type of surface you’re trying to determine the shape of, or is that irrelevant to the problem? For instance, I know for photometric stereo, the process performs better when on a Lambertian surface
  + Specular reflection vs Lambertian reflection
* Shape from texture
  + Hough-based procedure; however, it is unsure whether it can be used for CV
* Would prospective projection from fisheye lens differ from that of a convex lens?
* Point of intersection can be written as (X,Y,Z), and the respective (x1,y1) and (x2,y2) would actually differ
  + Vergence between optical axes and baselines causes this difference and relative displacement between points in 2 images
    - If the 2 optical axes are parallel, we can say that vergence is 0
    - Z = bf/(x1-x2)
    - Most of the computation is from determine if two points in stereo pair are the same
  + Correspondence
    - Generally, solved using near-vertical edge points of the two images or matching local intensities with correlation
    - Structured lighting (again from outside source) like light striping can be used
    - Epipolar lines
* Assumption of surface smoothness
  + Conformal representation of gradient is close to ideal as (p,q)-space isn’t linear and this type of representation is actually able to preserve small shapes
  + Stereographic projection allows maps the unit Gaussian sphere onto a plane, where z=1, through its north pole by having the projection point be at its south pole
* Hourad’s Junction Orientation Technique
  + Every boundary line becomes an interpretation plane that’s defined by the center of the camera projection system and boundary line in the image plane
  + Angles between interpretation planes are backpropagated into 2 interpretation planes
  + Junctions between boundary lines are backpropagated into 3 interpretation planes
  + Allows for the orientation of an object in 3D to be determined from a single corner