Data capture for VR

(Two examples from recent work)

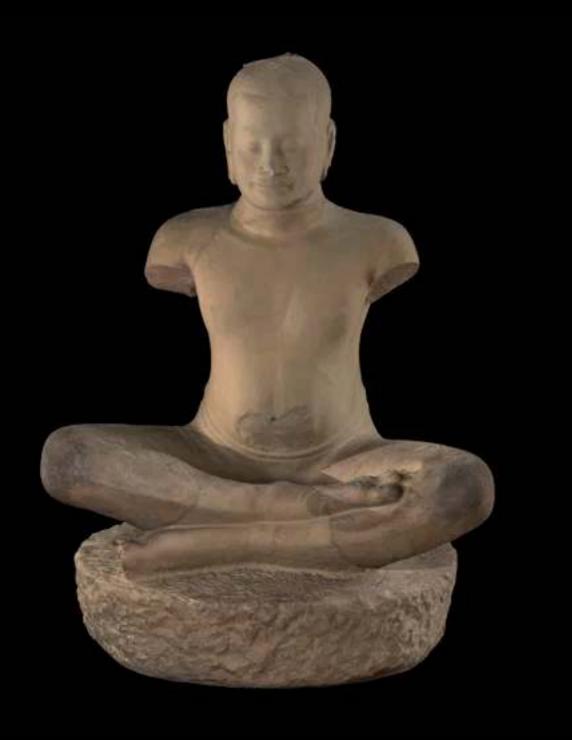Paul Bourke

3D models

- Rosemary Island, archaeology (April 2017)

- Atlas of Maritime Buddhism (May 2017)

360 camera capture

- Roundshot camera

- Digital replacement

	Monoscopic Panorama Still	Monoscopic Panorama Video	Stereoscopic Panorama Stills	Stereoscopic Panorama Video
4K	Trivial	Easy	A number of solution	A number of solutions
8K	Easy	Not hard	Only a few solutions	Only a few solutions
>12K	Not hard	Only 1 or 2 solutions	Only 1 or 2 solutions	?
>40K	Not hard	?		?

Roundshot camera

- Built by Seitz, Switzerland

- Only 4,5 ever made

- Records slit continuously for perfect omnidirection stereoscopic pairs

- Strength (now a problem), records onto two rolls of 700mm film rolls

- Could reasonably be scanned at 30,000 pixels across the 360 degrees.

Design

- Aim for 40,000 pixels across 360 degrees

- Require 6.5cm interocular separation
  - built custom lens holder

- Lens option for variable vertical FOV
  - current demo is 50 degrees
  - lenses available up to full 180 fisheye

- Bonus (GH5 camera): 10bit recording

- Avoid the parallax issues with other solutions

Left eye

40,000 pixels

Right eye

Questions?