

## Space dehomogenised

### Description

Anyone who's done some computer graphics and 3D modelling knows the convenience of the *xyz* coordinate system. Any point, line, plane and volume in space can be represented via Descartes's uniform grid system. To Rene Descartes (1596-1650) we attribute the *homogenisation* of space that reduces space to magnitude or extension in length, width and depth, from which other properties derive.

I've been catching up with the book *Human Space* by German philosopher Otto Friedrich Bollnow (1903-1991). It outlines the *natural* as opposed to the reductive *homogenised* coordinate system of mathematics. In keeping with the Phenomenological tradition Bollnow starts with space as we experience it. The cartesian system derives from the *natural*, but is stripped of meaning, significance, symbol, metaphor, and differentiation. Here are some examples of how Bollnow describes the structuring of experienced space.

### The "natural coordinate system"

**Up-down.** In reducing space to axial dimensions, we miss out on various important spatial asymmetries. *Up* is not just a dimension in a positive direction, with *down* as a negative. Think of *up* as *above*, and *down* as *below*. Moving up provides prospect and mastery, in some ways different, if not superior, to what's below.

**Right-left.** The right-left pairing also exhibits differences. Human societies have to agree on which side of the street we'll drive, there are bodily asymmetries between right and left, and some loosely formed, arbitrary associations between the right (good) and the sinister (left).

**Up-down versus right-left.** We don't have a lot of choices about what is above versus what is below, whereas right-left pairings can often be swapped around. In fact when you look in a mirror, right and left are swapped, but not up and down.

**Front-back.** Some people have difficulty telling their right from their left, but rarely what's in front of them versus what's behind. Furthermore, when I turn around, it's clear that what I saw in front of

me will now be behind me. I turn "in space" as something fixed around me and don't drag the whole relational frame with me: "I do not move my space, but I move in space" (46).

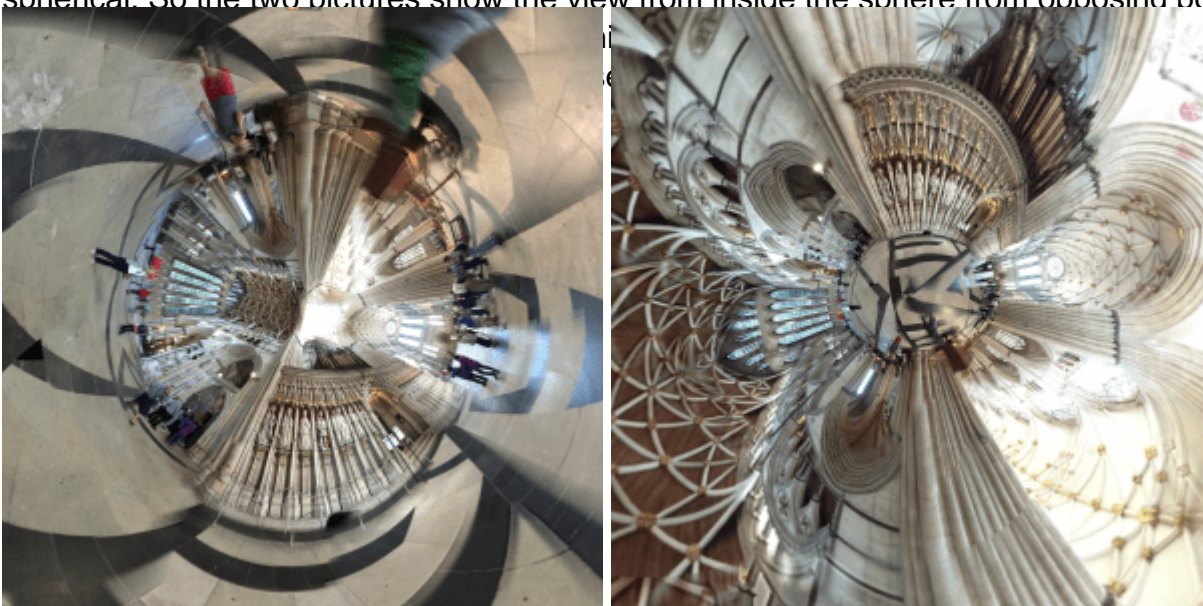
**Front-back versus up-down.** But however much I move around on planet earth, the vertical axis remains intact, i.e. we know our ups from our downs.

**NSEW.** Bollnow then extends this bodily-based axial system to our understanding of the world in terms of a plane, the hemisphere of the sky, the horizon, and of course natural orientations related to the movement of the sun. To orient ourselves, buildings, gardens and artefacts according to the cardinal directions carries certain connotations of *mood* (though he says "mode"). There's the optimism associated with an easterly orientation; west implies termination, and even sadness. There's already a mood bias in the use of the verb *orient*, which really means "to face east".

Bollnow elaborates much further, but the point here is that even if we think of spatial experience in terms of an axial system that system is best understood as heterogeneous, rife with differences and asymmetries. As embodied beings, this is the world as we know it.

## Centre and periphery

Here is a picture I took inside York Minster a few weeks ago. I used the Occipital 360 panoramic app on an iPhone. I was standing off axis and the image is a full 360 panorama. The east is to bottom of the first picture facing the rood screen with the sculptures of the kings of England. The second image is the same as the first, but mapped by Occipital software swapping the perimeter for the centre. The image is spherical. So the two pictures show the view from inside the sphere from opposing poles. We can thank



## References

- Bollnow, O.F. 2011. *Human Space*. Trans. C. Shuttleworth. London: Hyphen Press

- Descartes, Rene. 1968. *Discourse on Method and the Meditations*. Trans. F. E. Sutcliffe. Harmondsworth, Middlesex: Penguin

### Category

1. Architecture

### Tags

1. Descartes
2. geometry
3. mood
4. orientation
5. Phenomenology
6. space

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