

Geometric properties of perspectives:

M4 geometry of perception
endless geographies of
explanation

Image sources: Marieb & Mallatt. 2003. *Human anatomy* (third edition), San Francisco, Ca: Pearson Education Inc. -- Takahashi, Takeo, 1994, *Atlas of the human body*, Harper Perennial, New York, NY.

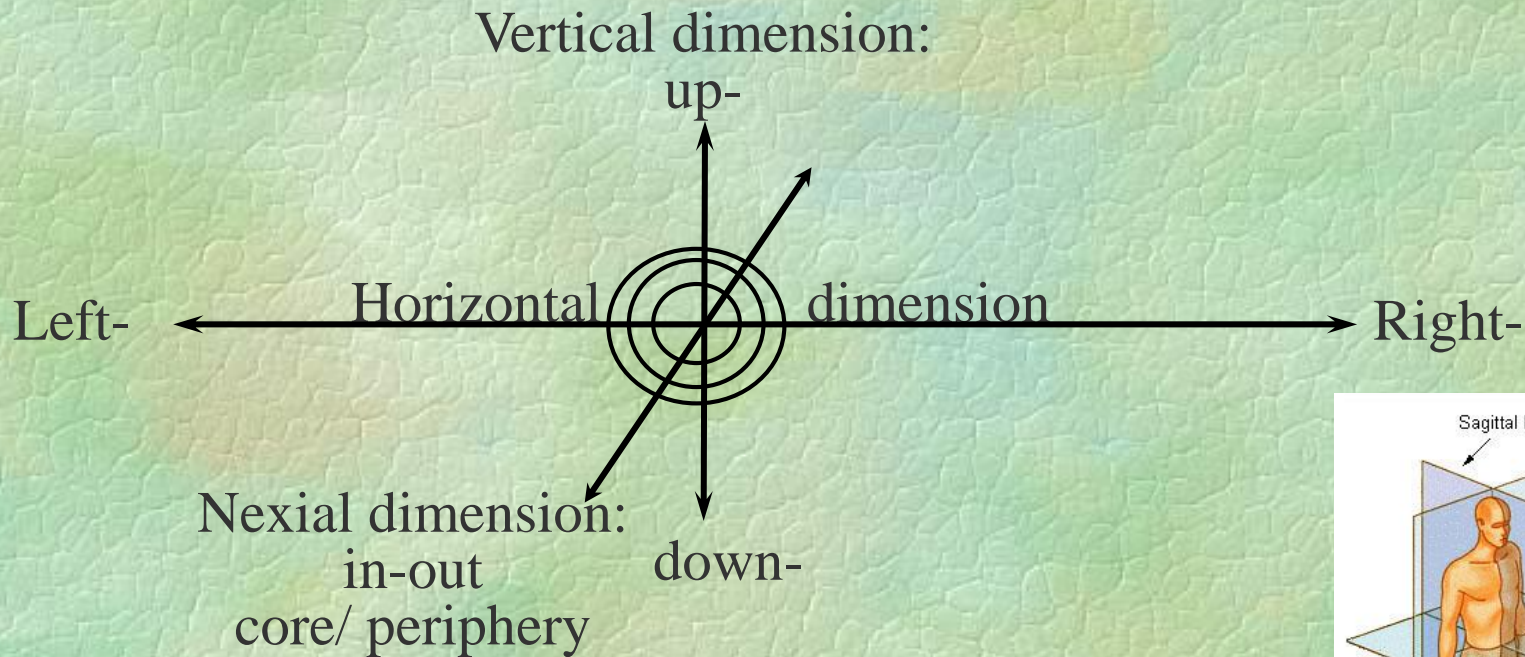


Bouchon, 2006,

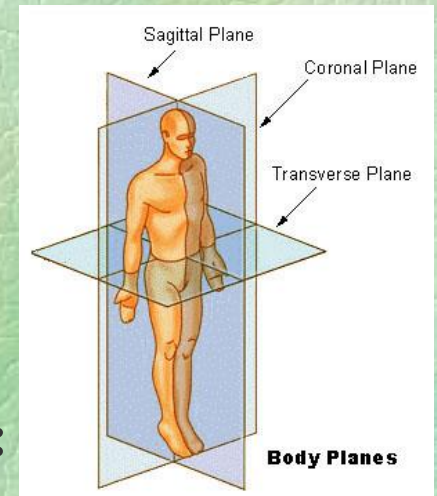
Ph.D. research advisor: Pr Stuart Hill, Chair Social Ecology

Topologic projections:
conformations of
perspectives

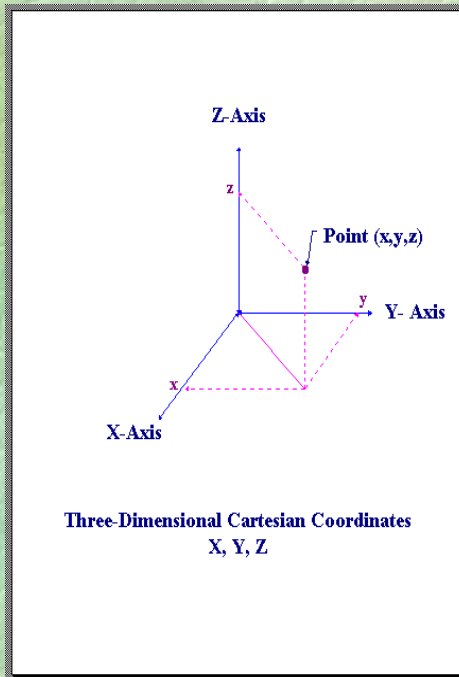
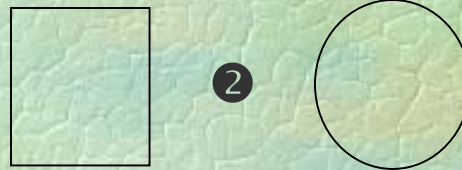
Perspectives: 3 axes of complexity in both explaining and experiencing



In medical descriptions:

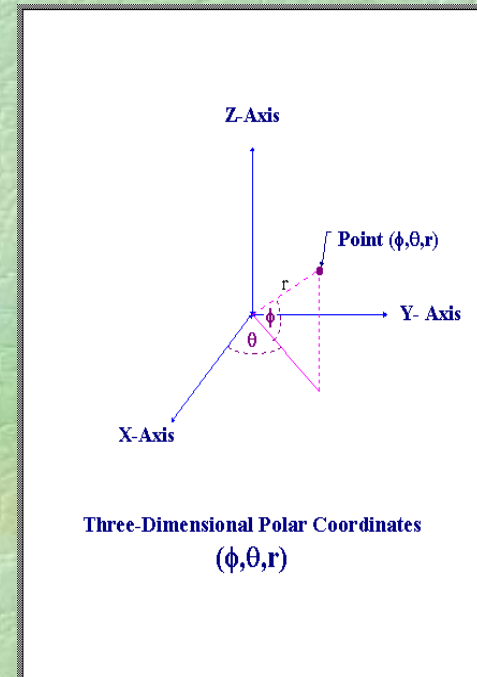


Shapes in transformations & human frames of reference



‘Not only can God make a square circle, humans can too. The trick is to adopt a higher viewpoint.’

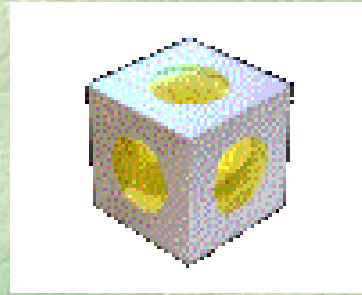
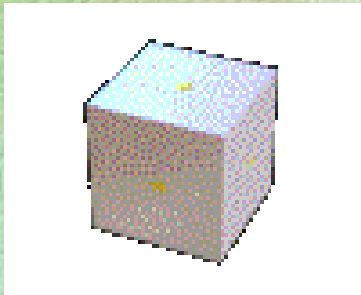
(Sheahen 2003)



→ See animation ‘Cube-Sphere’

Scientific systems of coordinates and their dual transforms

‘**Morphometrics:** metric study of biological shape variation. ‘Factors include genetic factors, pre-natal environment’. There are many theories. We propose a statistical theory of shape.’ (*See animation 'Cube-Sphere'*)

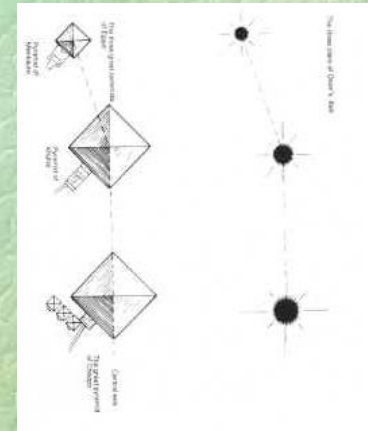


same properties as Left- and Right-perspectives
and
dominant human perceptions: visual and auditory

The 3 'fundamental' perspectives: structural, nodal or modal, functional, representations do not match totally

Trivial knot ('unknot'),
trefoil knot, and figure-eight knot:

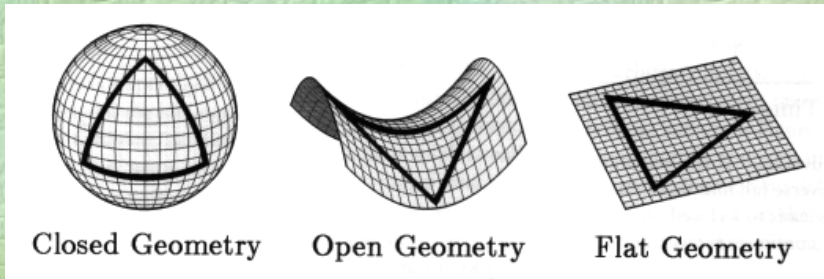
The 3-stars
experiment:



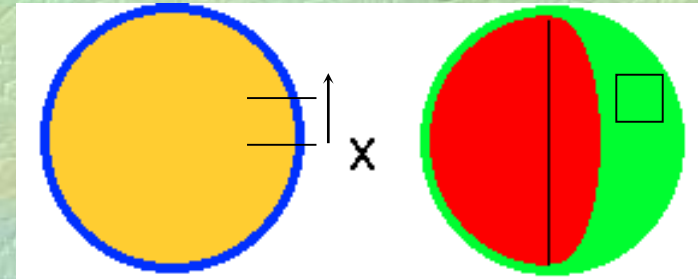
None of these 3 knots can be rearranged to
look like the others. (Adams 2001)

See also <3 star experiment>

3 geometries and 2 geographies: experience and explanation



Spherical Hyperbolic Flat
Universes with curvatures:
positive negative zero



S1 Time

S3 Space

‘The cosmic density parameter Ω determines the three possible shapes to the Universe; a flat universe (Euclidean or zero curvature), a spherical or closed universe (positive curvature) or a hyperbolic or open universe (negative curvature).’ (Schombert. J., June 2006)

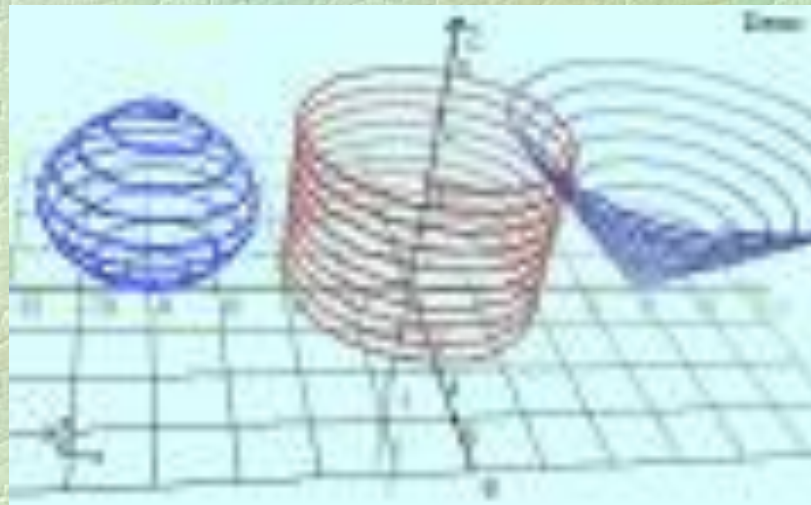
<http://abyss.uoregon.edu/~js/ast123/lectures/lec15.html>

S1: ∞ Time circular (or a linear section of it) circulating from an invisible origin (center of yellow circle).

S3: Space FlatLands = Sphere-surface or ‘The Earth’ (square sector) with a hidden inside.

Transformations of shape in 3D: 'shaping' of explanation/experience

(shaman, prophet, alchemist, healer, visionary, cosmologist...)



Topography:

Sphere, globe – Tube, tunnel, staff, rod, leg – Funnel, pit

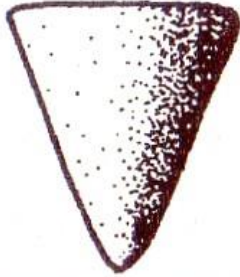
Topology:

Mathematical 'ball' – Wormhole (or snake) – Cup, crucible

Shapes of late stone age 'tokens'

Plain Tokens

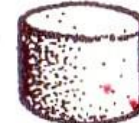
1. Cones



2. Spheres



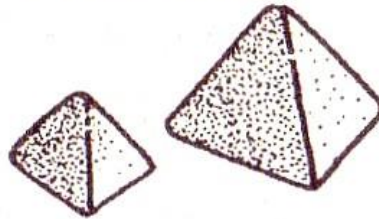
3. Disks



4. Cylinders



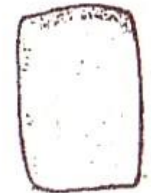
5. Tetrahedrons



6. Ovoids



7. Rectangles



'The early tokens, dating from about 8000 to 4400-4300BC are called plain tokens and mainly consist of a few types – spheres, cones, tetrahedrons, discs and cylinders. In the second phase of the system... complex tokens appear... most significantly in the activities... of temples.' (Rudgley 1999 p.51)

Complex Tokens

1. Cones



2. Tetrahedrons



6. Ovoids



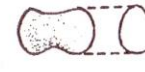
8. Triangles



10. Parabolae



15. Animals



Gesture: wiggle, path, circle to represent modal transformations



Examples of ‘**motion event**’ expressions from Nicaraguan participants’ narratives.

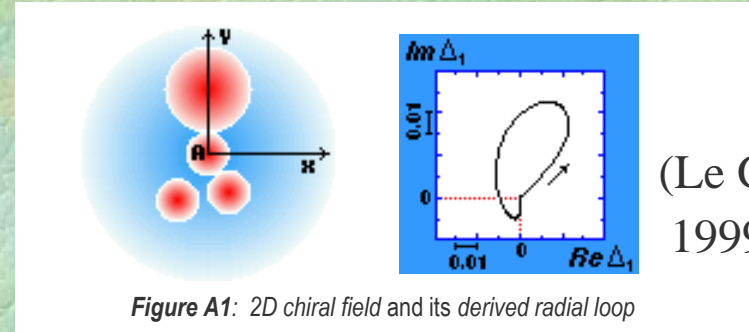
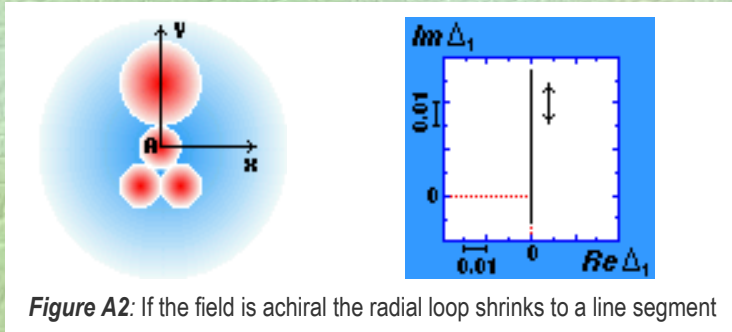
(A) Manner and path expressed simultaneously.

(B) Manner and path expressed sequentially
(Senghas, Kita & Özyüre 2004 *Children creating core properties of language.*)

‘Gauge’ rePresentation of ‘fields’ of existence

Descriptions: a physical space & a complex radial loop

*[Left: a plane of **real** number, right: a plane with **imaginary** numbers]*



(Le Guennec 1999)

‘Achiral field whose radial loop is a line’: eg classic symmetry of the scientific

Space **②** Time

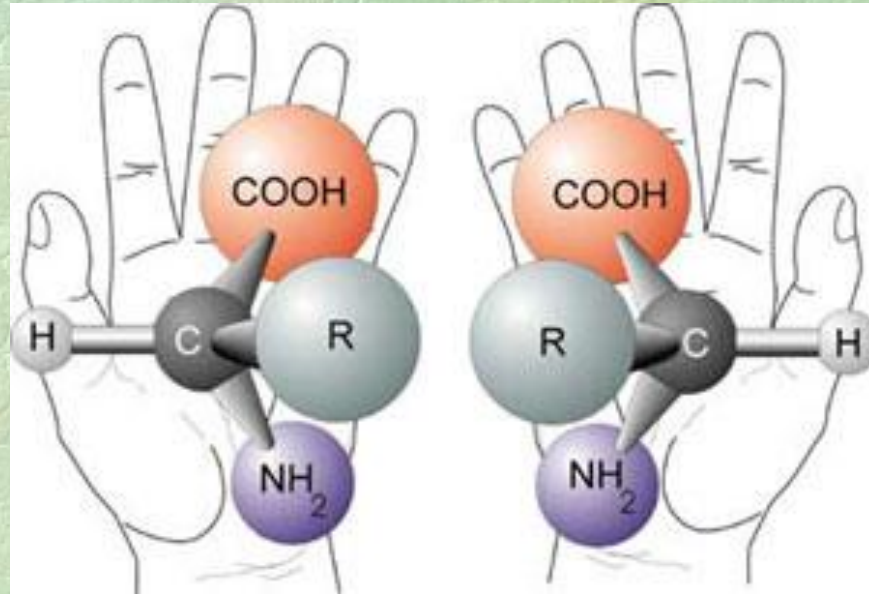
the ‘achiral’, stable ‘FlatLand’ with ineluctable ‘flow’ of time.

Looping ‘chiral field’: eg a TimedSpace with L-R uneven properties, and ‘natural’ processes such as seasonal time cycles :

uneven Human Reality ↔ regularity of ‘natural’ cycles

– ‘Icons’ of anthropomorphism and ‘physikemorphism’ –

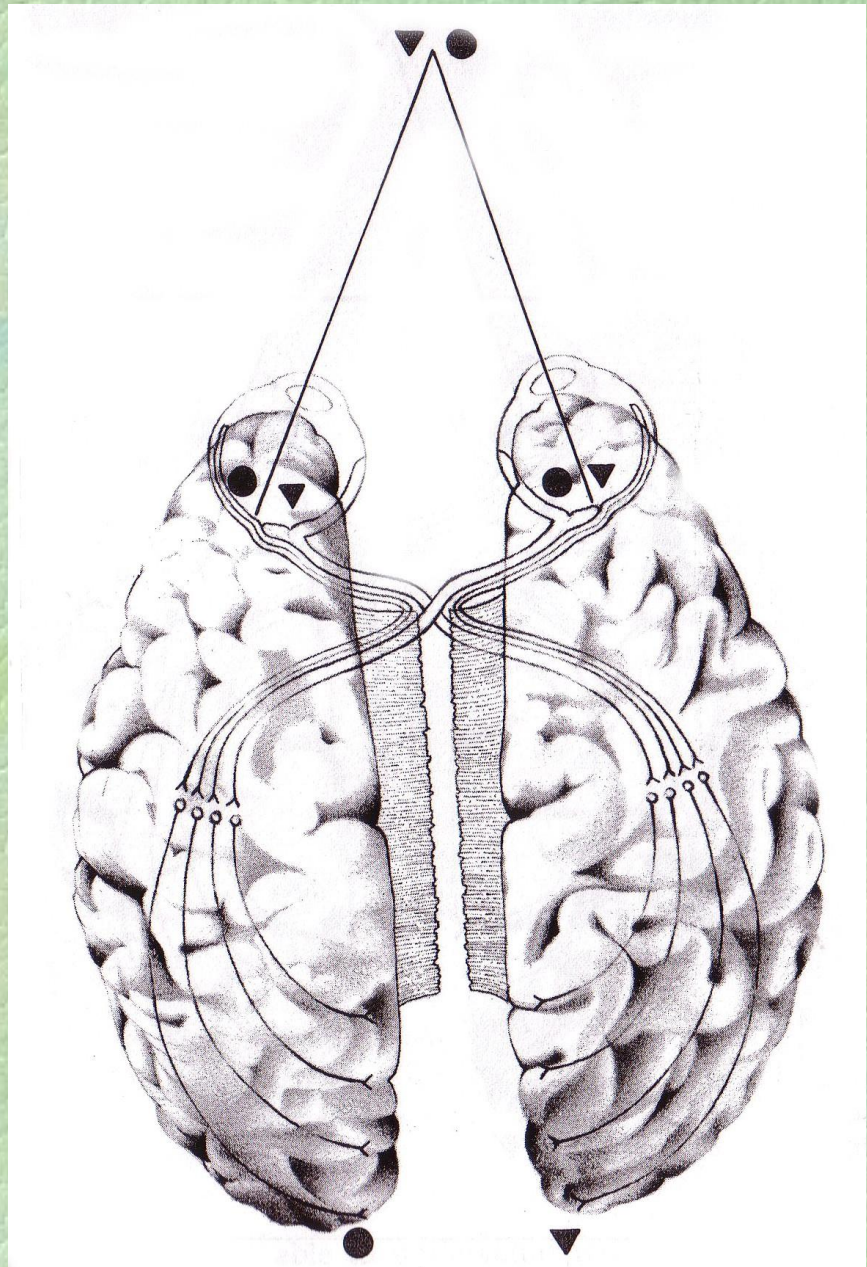
The 2 hands of...: an example of physikeMorphism ② anthropoMorphism



Explanations we derive from nexial-topology (eg chirality) we eventually find as experiences in the natural-physical world or the anthropomorphic-human real world, and vice-versa.

Left and Right: brain, vision & explanation

(Maturana & Varela 1987 p228)
in Tree of Knowledge



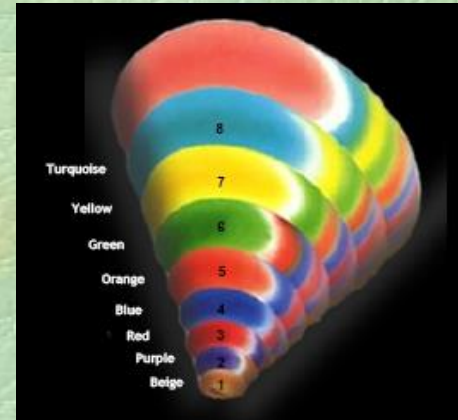
PhysikeMorphism ② Anthropomorphism



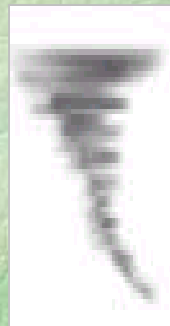
Rugosa coral
in physical nature



Maxwell's early model
by physical analogy
(Nercessian 2002)



Spiral Dynamics of
human evolution
(Beck & Cowan 1996)



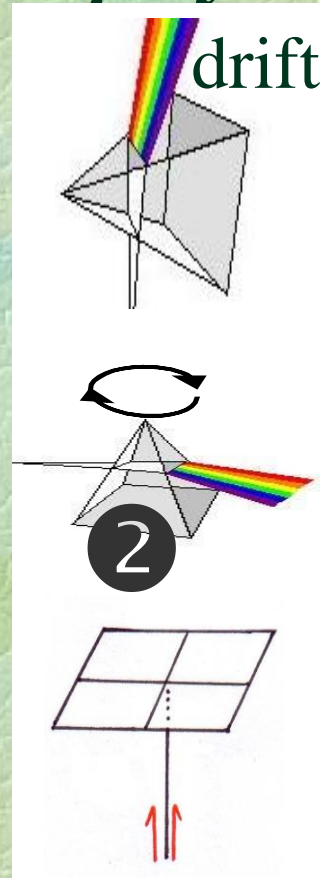
‘Natural’ whirl wind vs
Medieval medicine: disease
of ‘wind’

The ‘East wind’ archaic ‘Elemental’ model, traced back to a female imaging of nexial-topologic orienting : ‘Wind’ as ‘increase’ in activity, covariant with ‘going off track’, hence of limited use.



One-way covariant deployments leave a 'drift':

integration
enfoldment



differentiations
unfoldment

A common direction:

Relative: both sides are symmetric and in circularity, and have the *same* vertical axis topologically oriented 'up'.

They leave, altogether, a slight diffraction – a drift.

‘Nexial-topology’ (deployed)
modelling shows that the same
generic parameters
frame perspectives
in any field.

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