PICTURES

Crafting & Beholding

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OPTICAL AWARENESS

the animal mind (sentience) presents IMAGERY
"rational thought" (sapience) forges CONCEPTS

sentience uses an "affective logic"
sapience uses a "disenchanted logic"

reaction immediate

SENTIENCE

reaction delayed

SAPIENCE

SENTIENCE
is immediate, intuitive

SAPIENCE
is discursive, reflective

"Now! … *That* should clear up
a few things around here!"

SENTIENCE
doesn't recognize chance

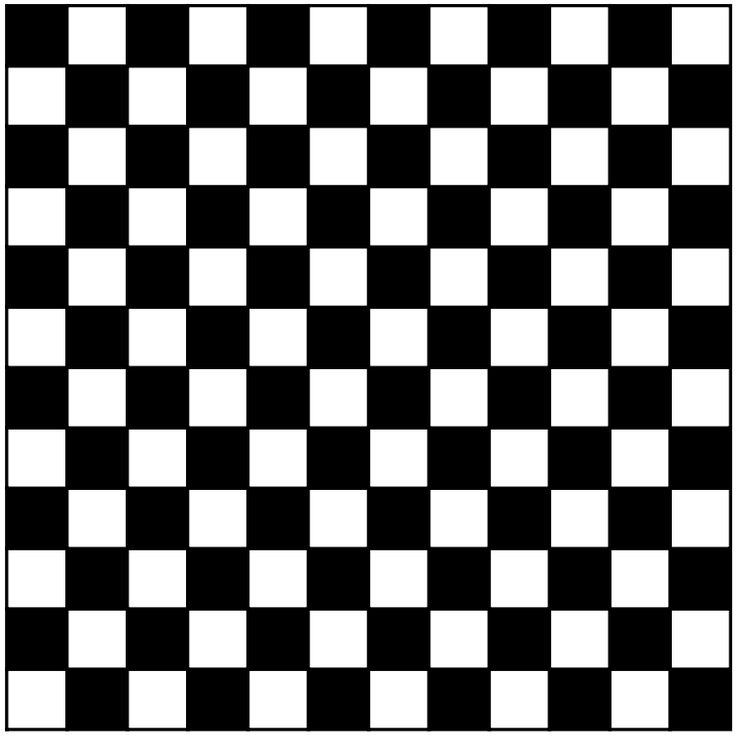
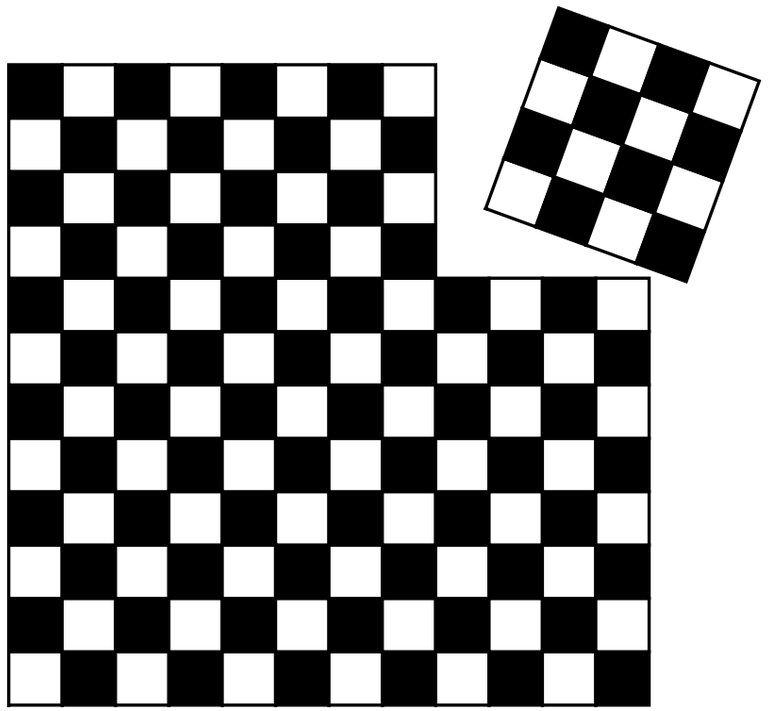
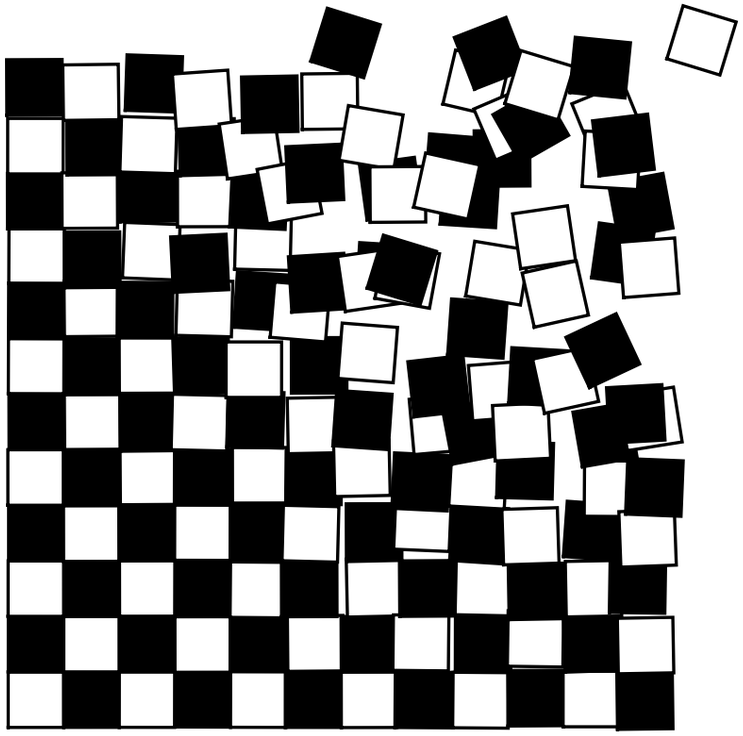
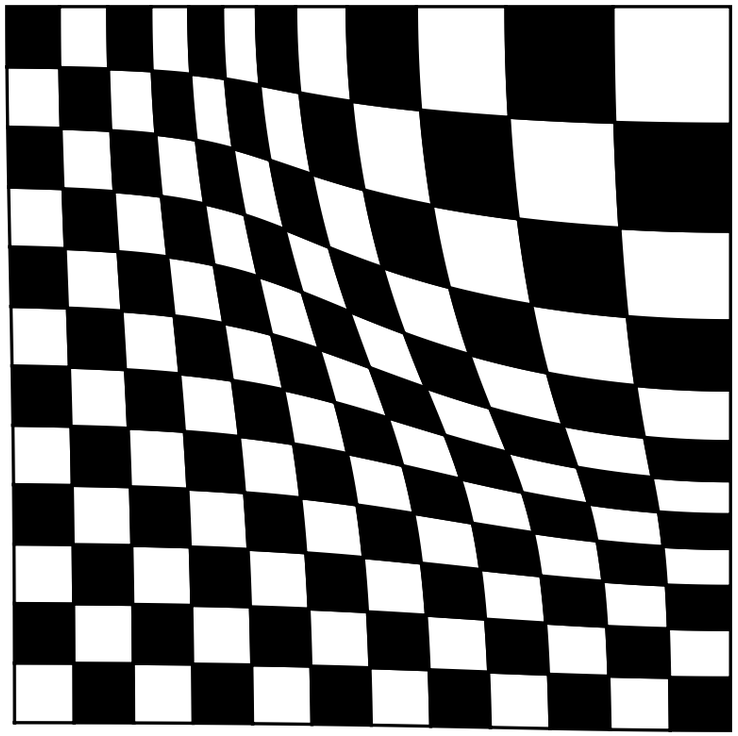
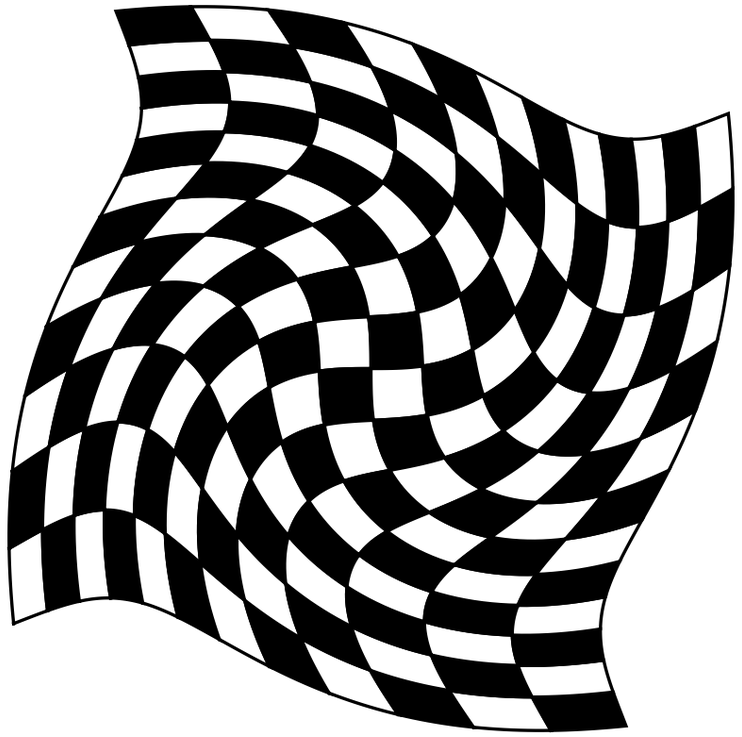
SENTIENCE admits multiple worlds, its resolution is ACTION

Only the moment NOW (including past and future) counts

for SENTIENCE anything seen is thereby REAL

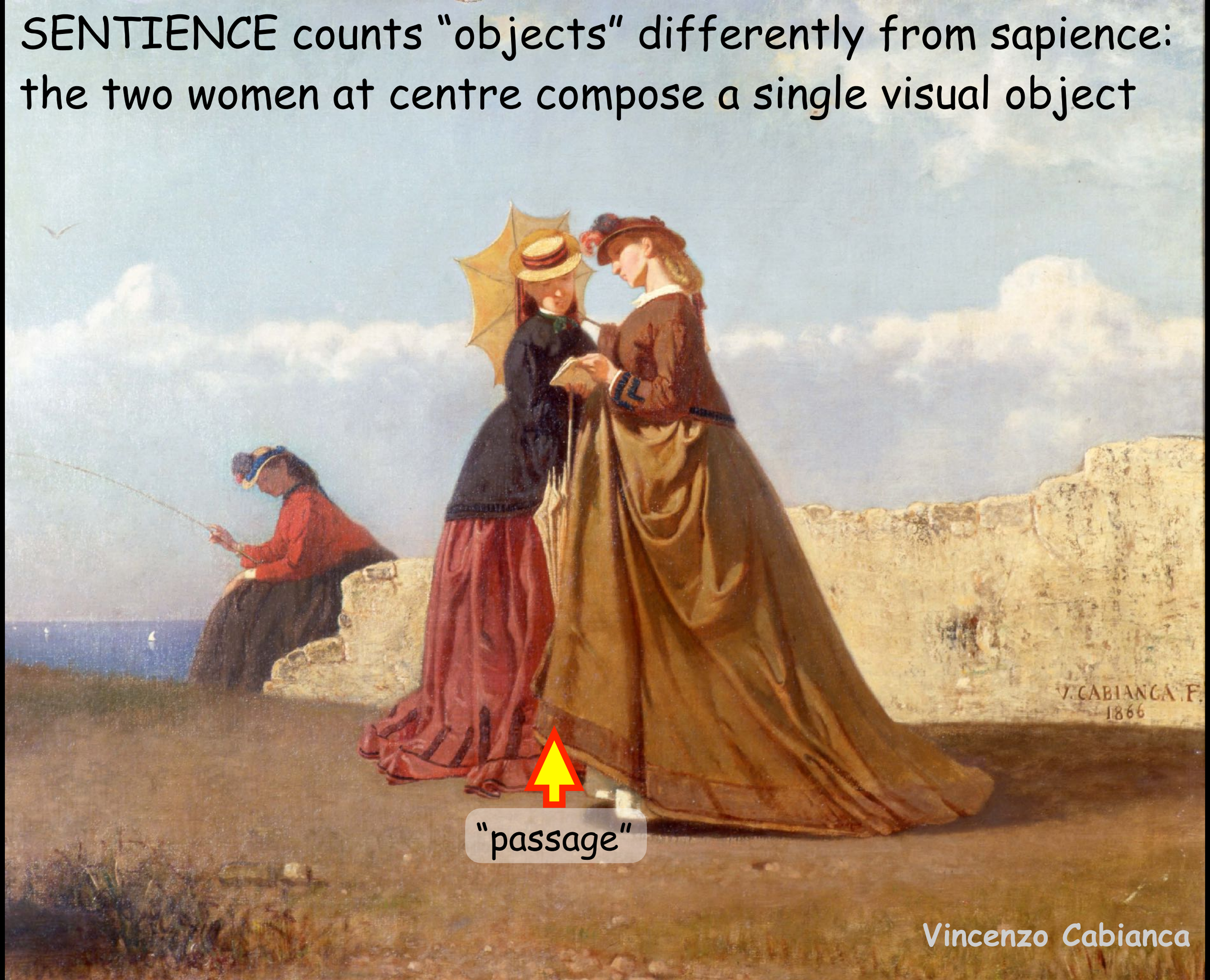
no help to protest centaurs don't exist if you meet one!

in real life you need to deal with ANYTHING in actuality

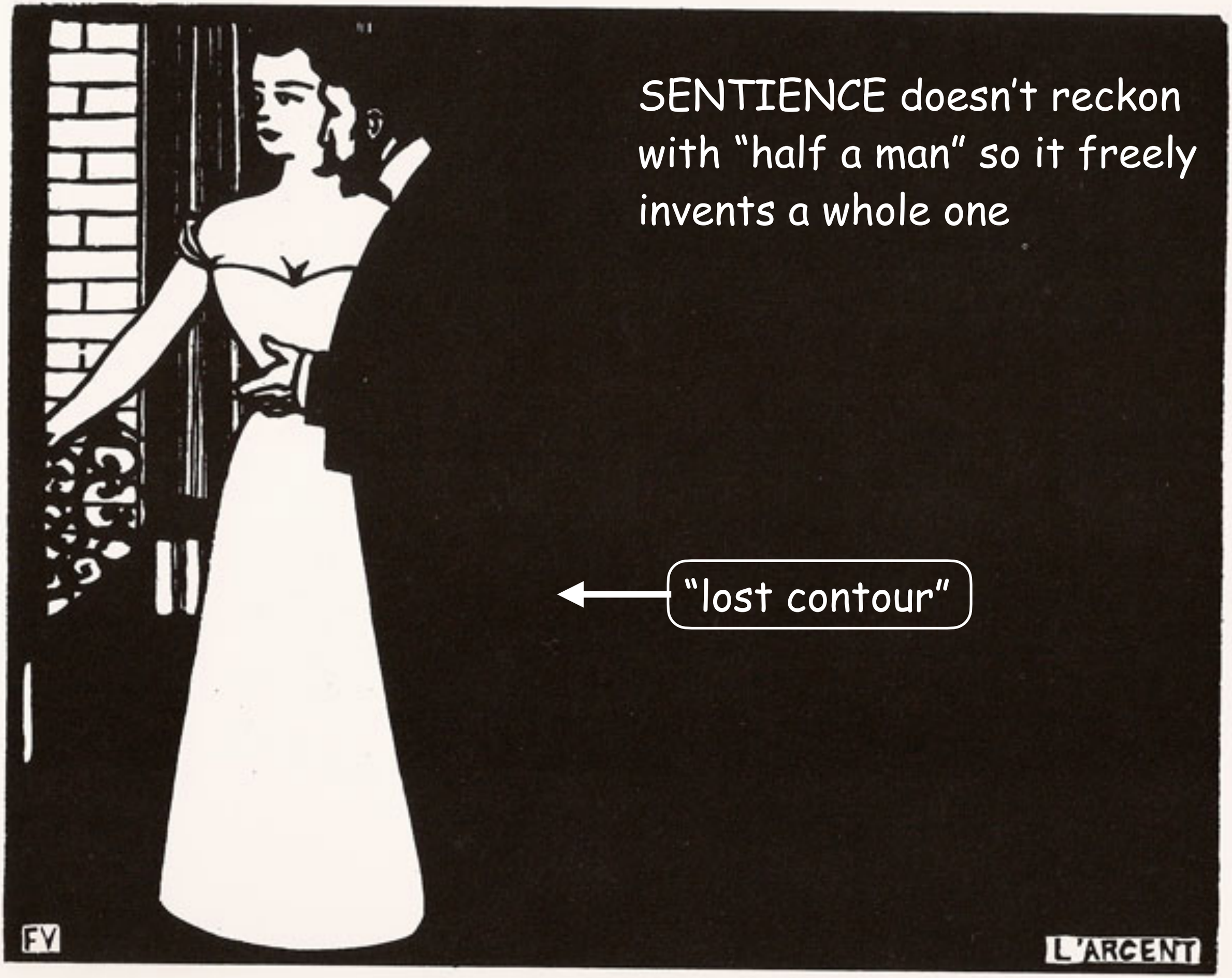






in SENTIENCE anything has either an inner life or is subject to magical forces that are objectified

SENTIENCE counts "objects" differently from sapience:
the two women at centre compose a single visual object

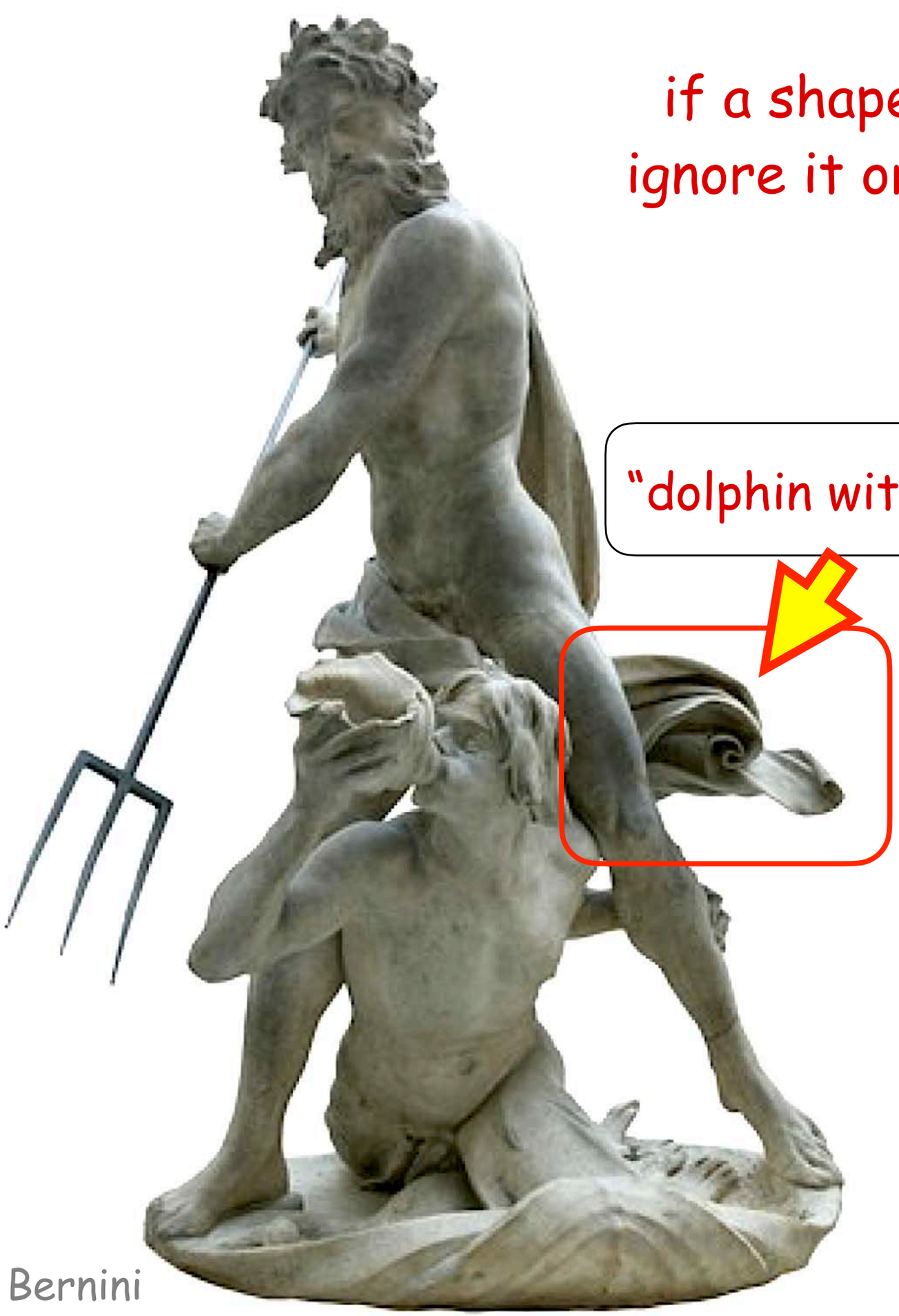


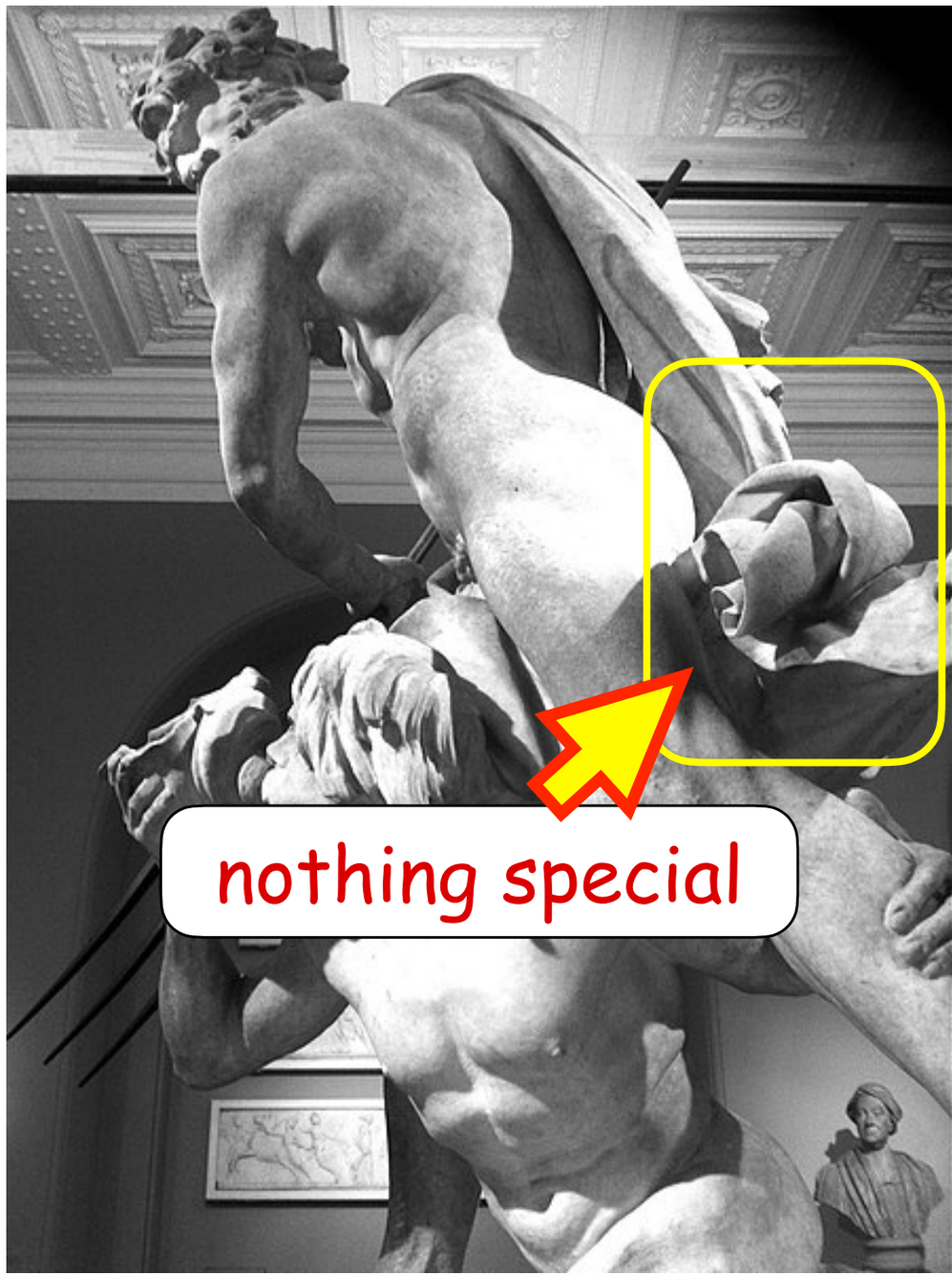
Vincenzo Cabianca

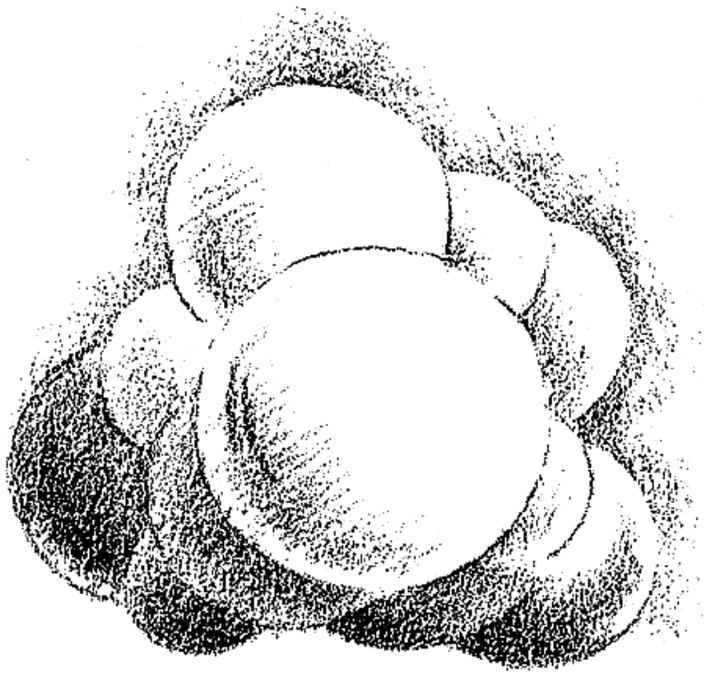

SENTIENCE doesn't reckon with "half a man" so it freely invents a whole one
"lost contour"
FY
L'ARGENT

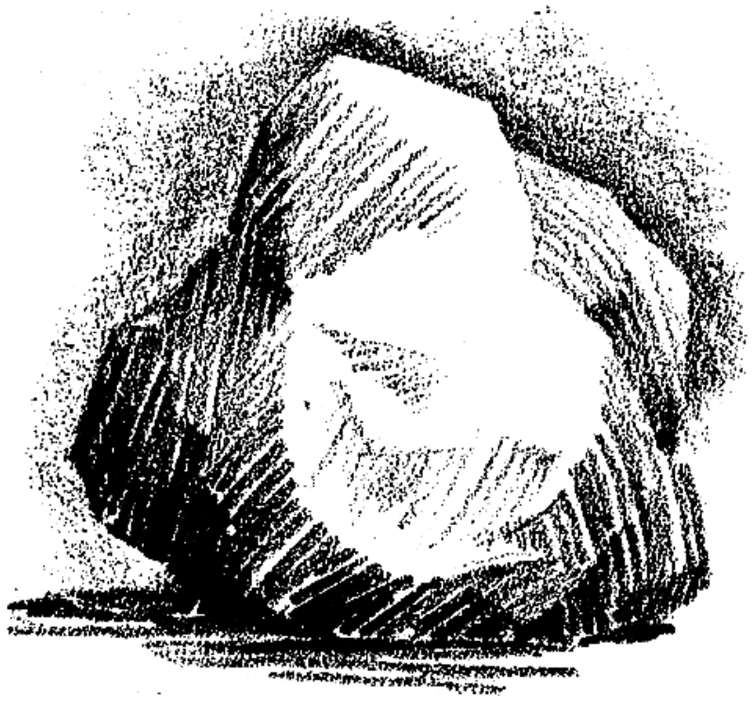
two very different visual objects "composed of swans"
& a strange visual object composed of sparrows

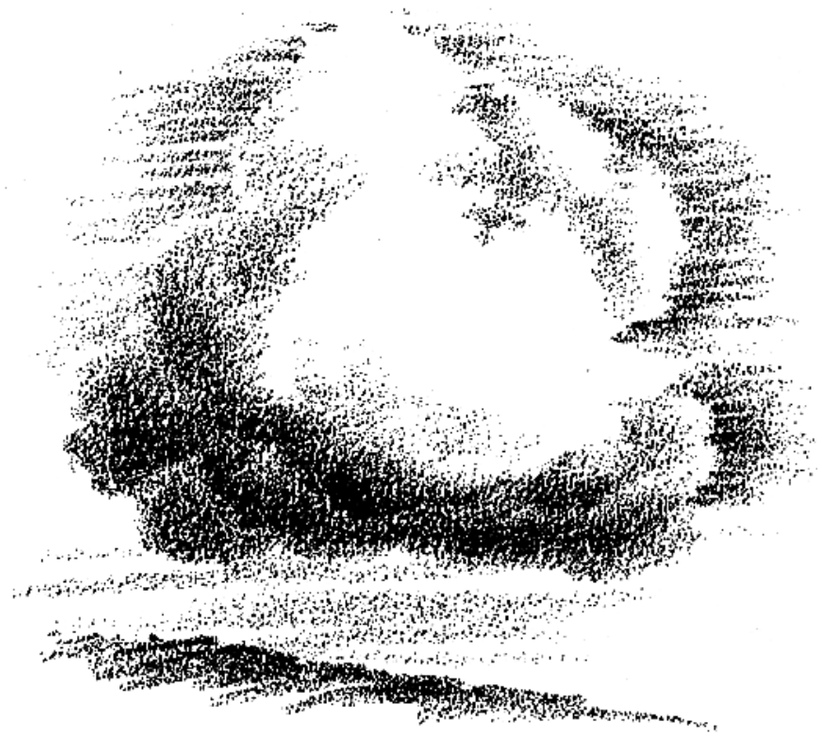
if a shape is amorphous, sentience may ignore it or create something unexpected











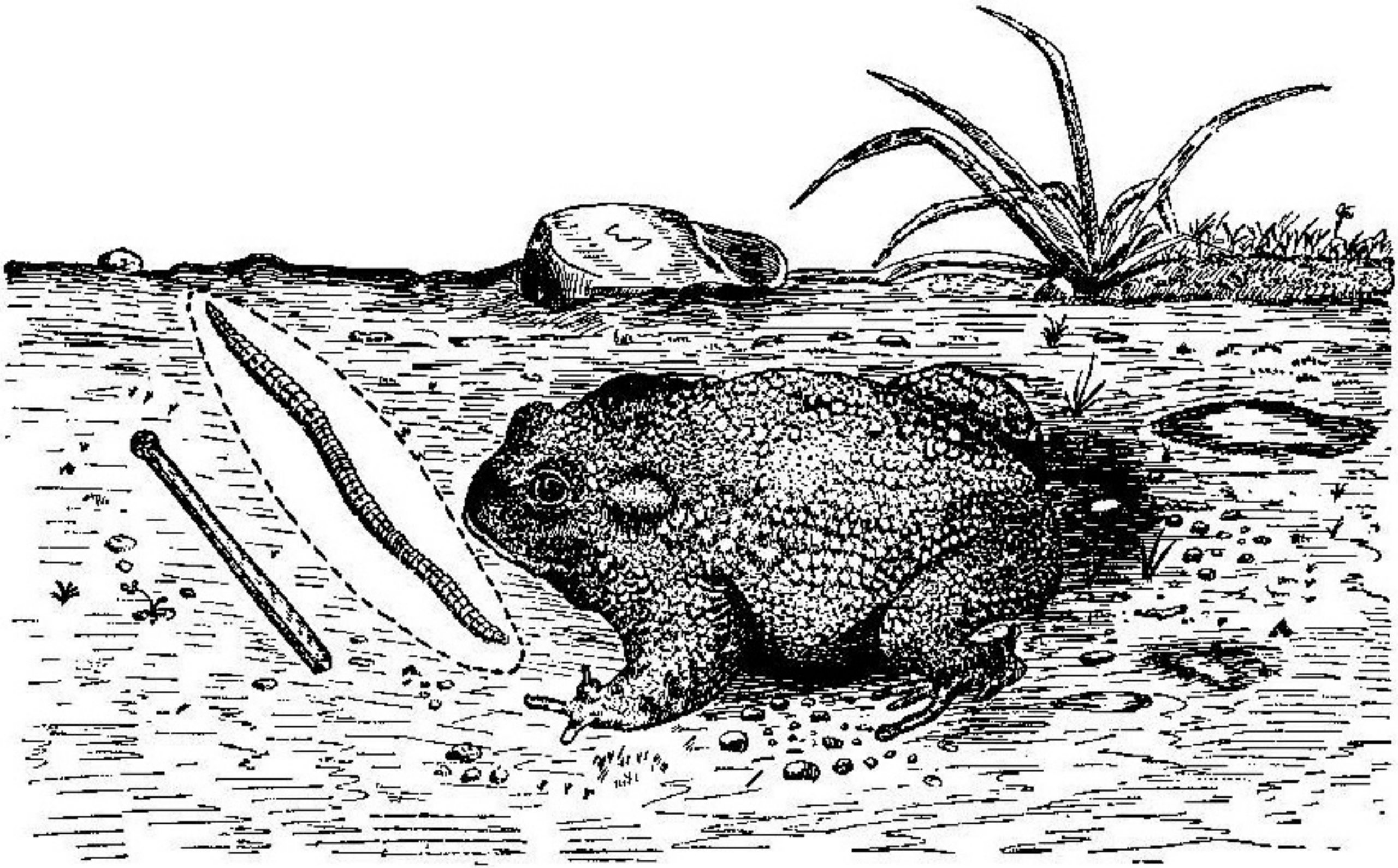
these count as
equivalent forms
though they may
have different
feelings to them
(hard, soft,
heavy, light,
smooth, rough, ...)

it is "VISUAL FORM"
at the gut level

SENTIENCE doesn't LOOK for things, it FINDS THEM!

"attention" is a SAPIENT concept, SENTIENCE doesn't need it

the toad uses a seek image in order to find food



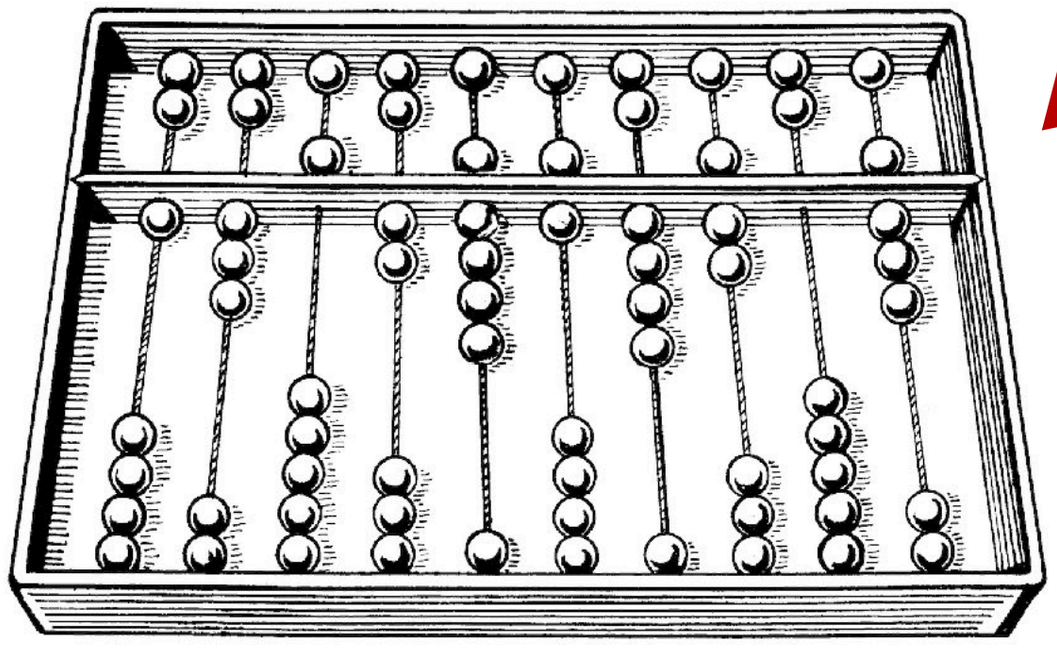
aesthetics is "sensible wit"

PSYCHOGENESIS

awareness happens (like sneezing)
you don't do it

pictures are artfully crafted
so as to evoke imagery

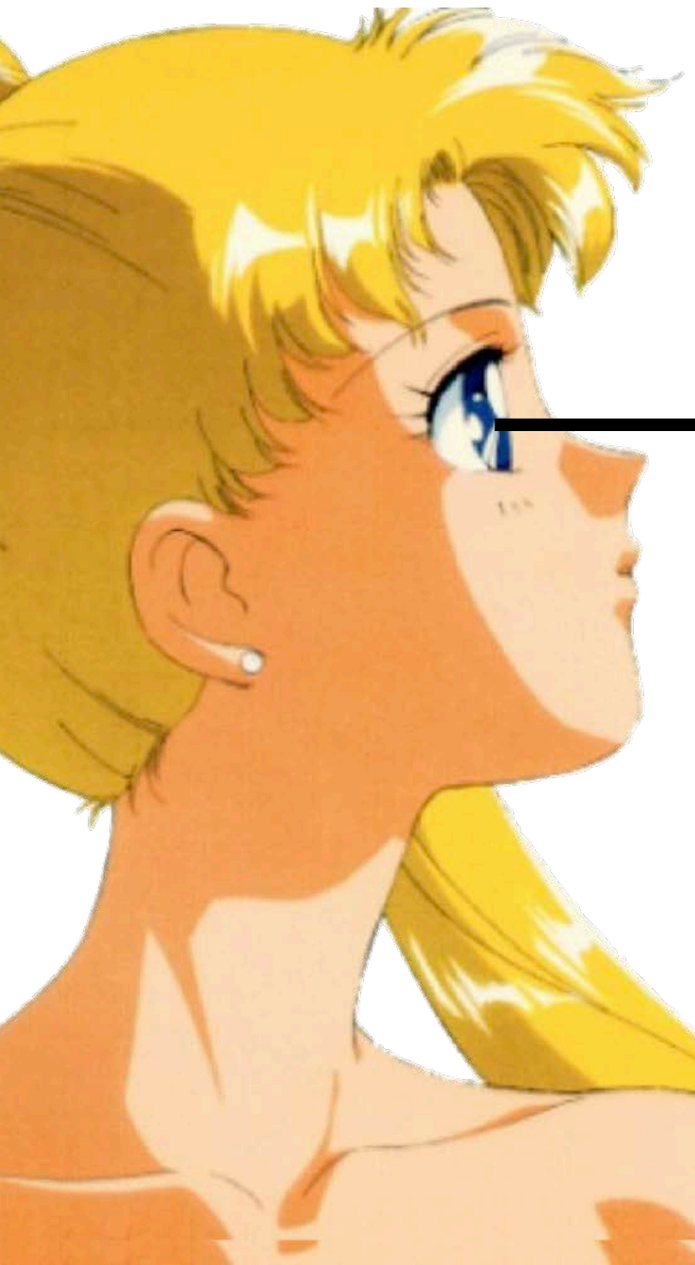
DEPTH is a
bead shifting game
in pre-awareness

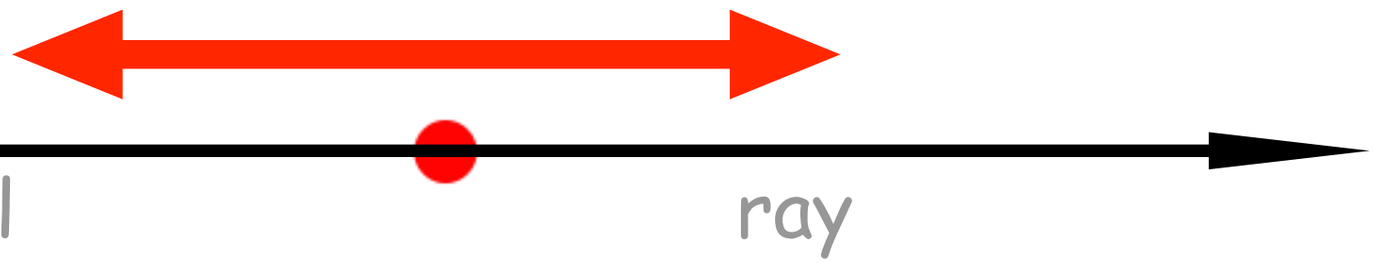


"abacus model" of
pictorial depth

if VISUAL SENSE conflicts with sapience it is called ILLUSION

"... distance, ... cannot be seen. For distance being a line directed end-wise to the eye, it projects only one point in the fund of the eye, which point remains invariably the same, whether the distance be longer or shorter."





Bishop Berkeley,
Essay towards a New Theory of Vision,
1709

the relative depth of the confetti is indeterminate

this is not a VISUAL 3D cloud

inflections of surfaces ("pictorial relief") are different in kind from volumetric depth

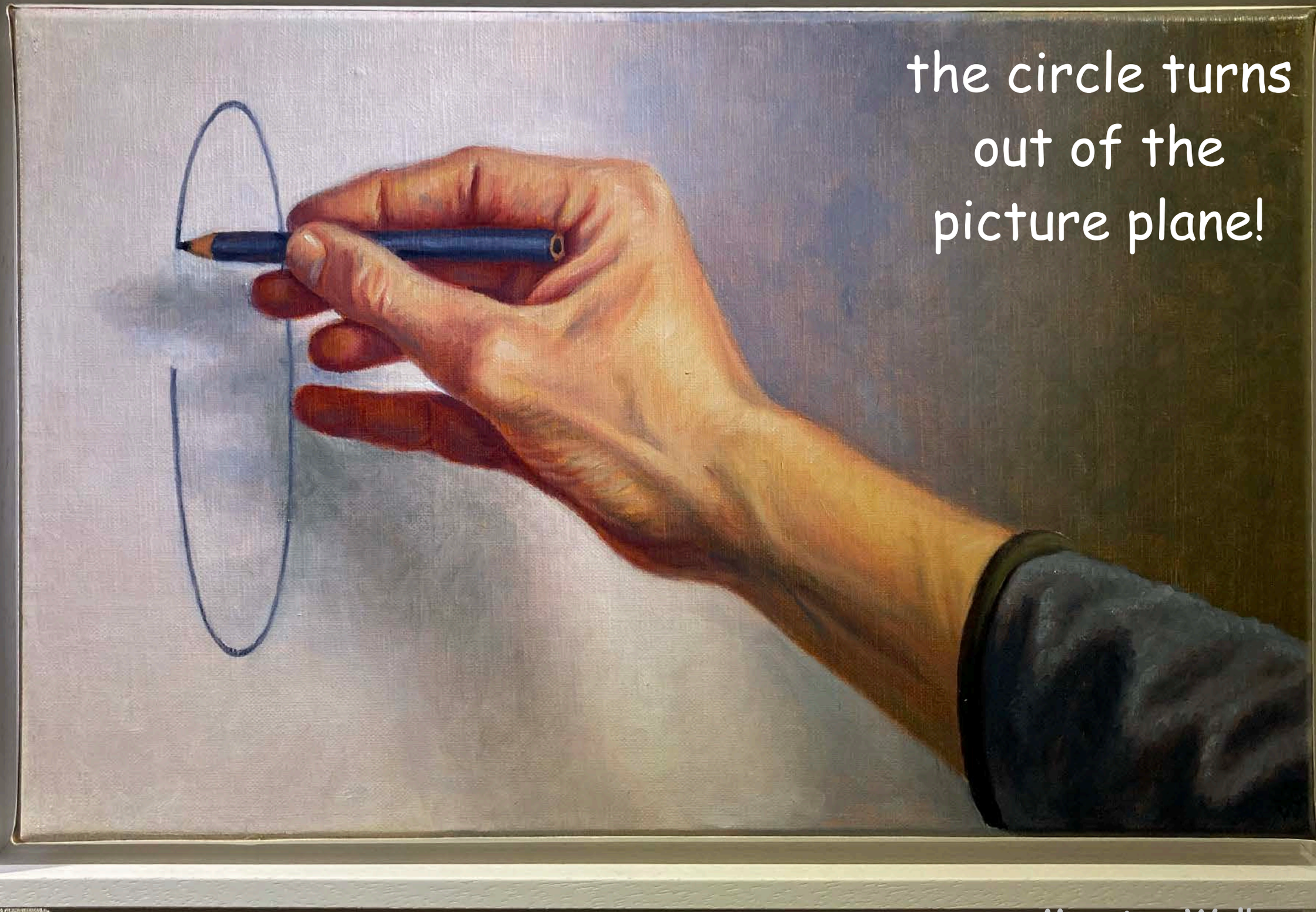
both yield "3D"

these two "depth-forms" are often combined in pictorial design

a painting!

Jacob de Wit

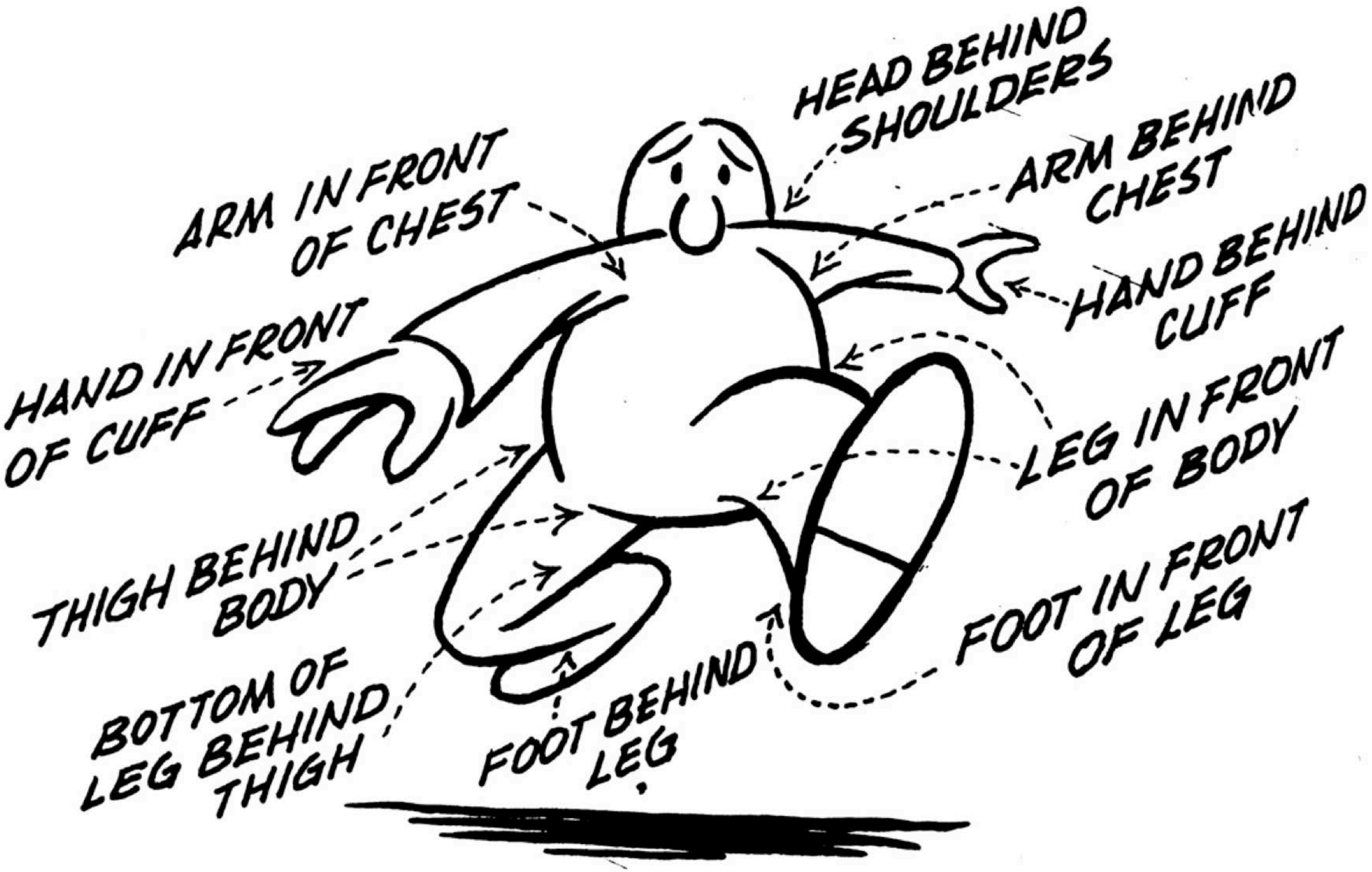
contour, occlusion, shading, layering and contrast do most of the work



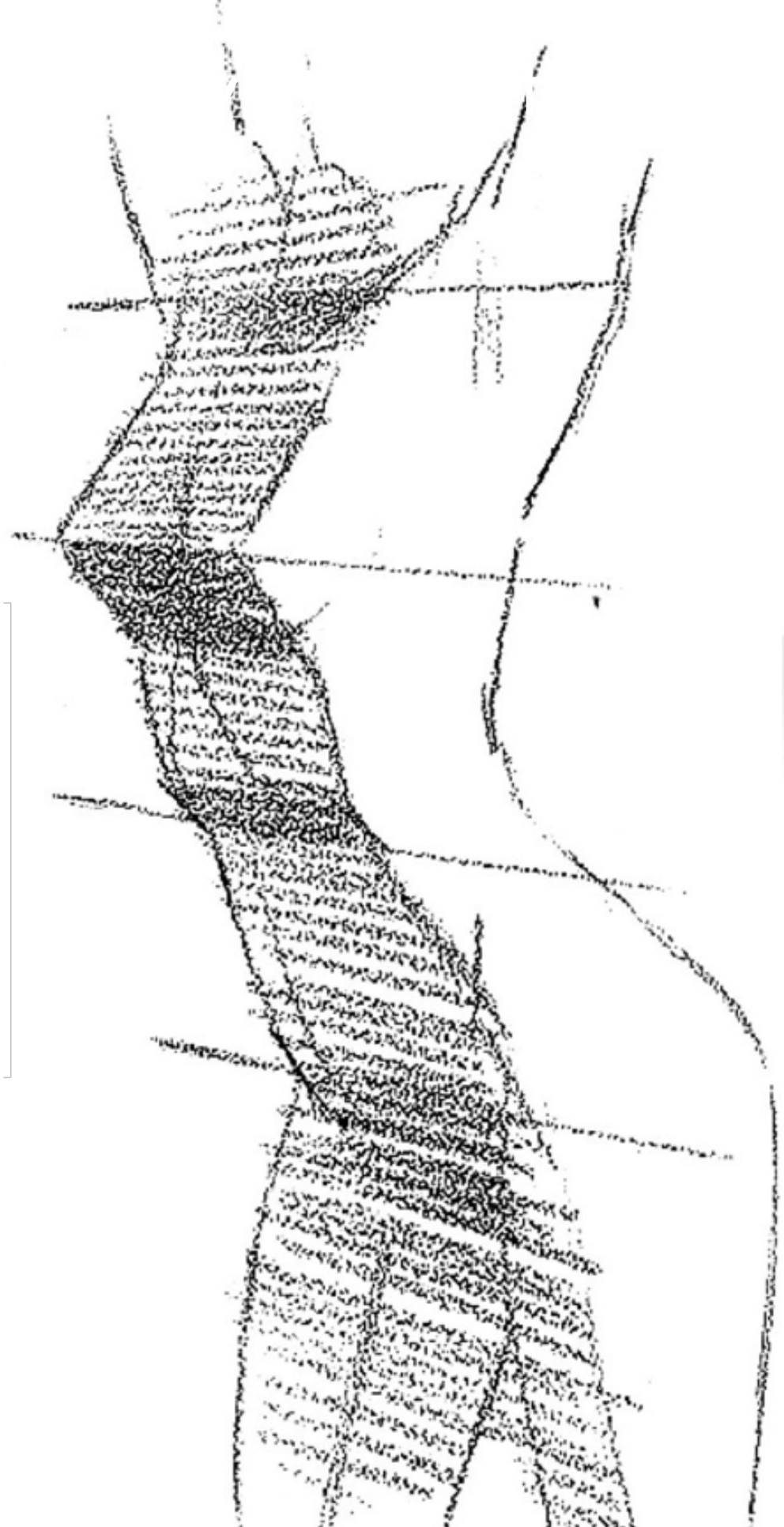
the genesis of pictorial space

is is not hard to use cues in picture design

the cruder the more effective!



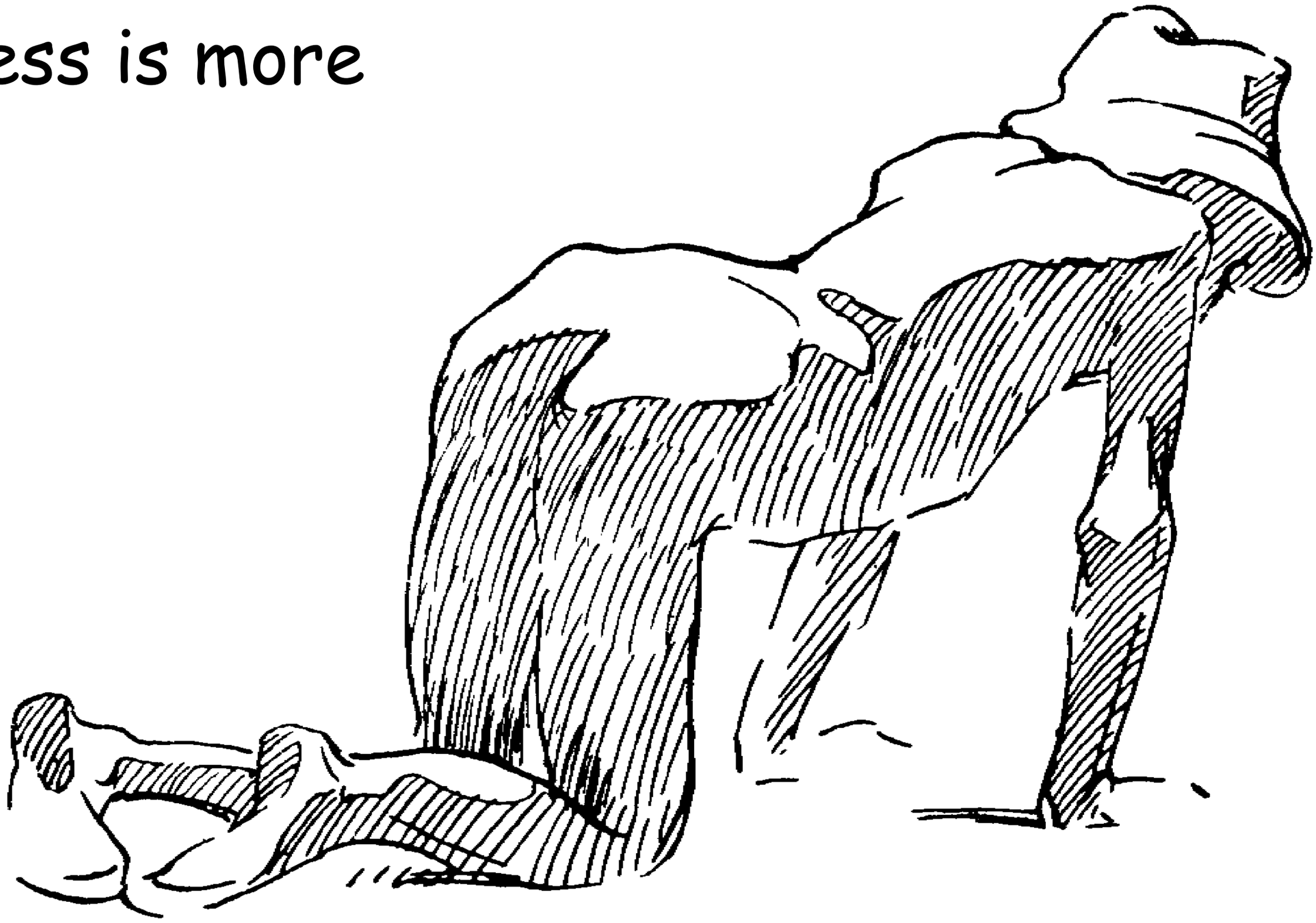
intuitive shading: various methods work well



but is shading NEEDED?

Poussin

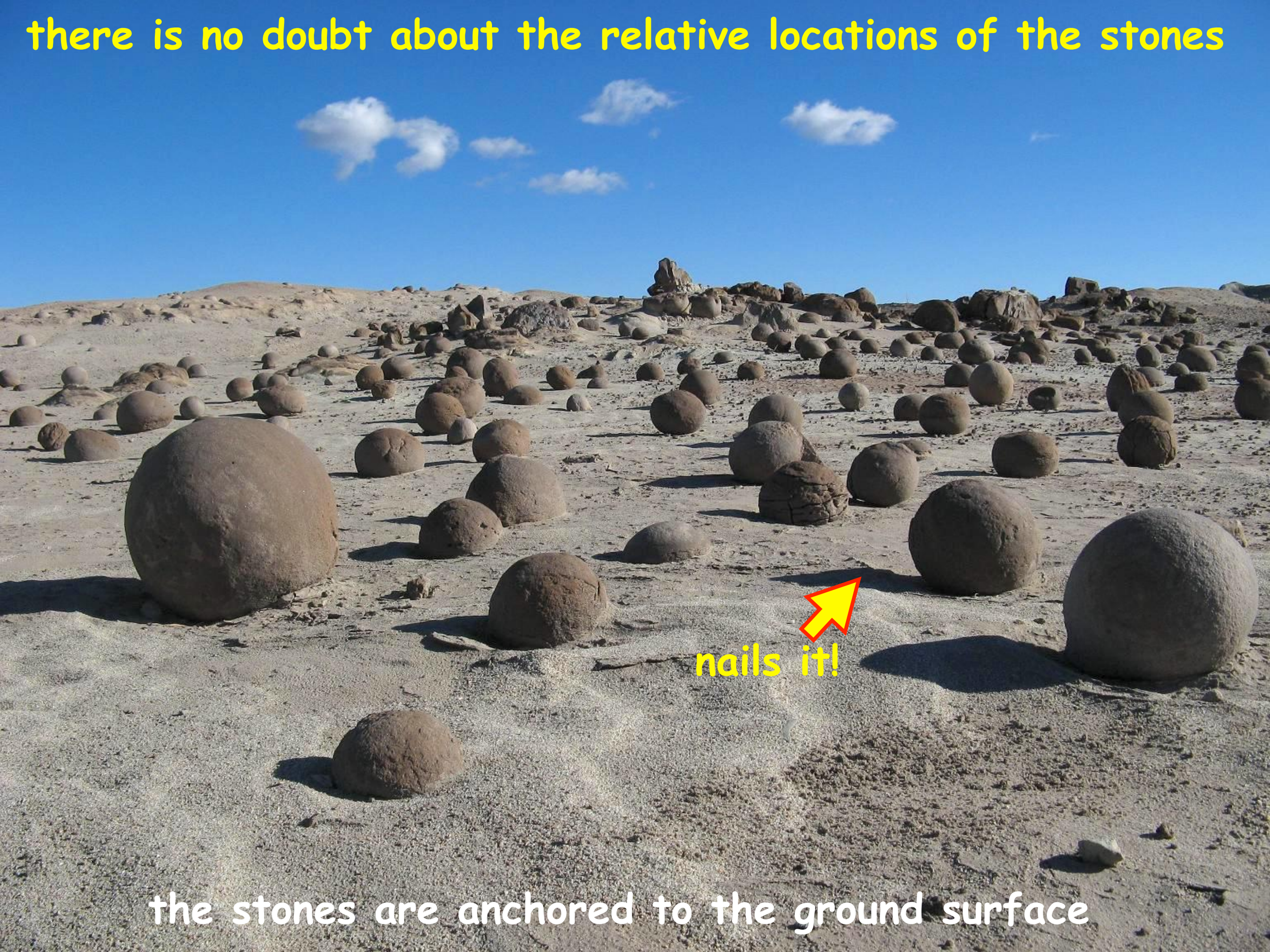
less is more



it is easy to overdo shading

seeing is not inverse optics

there is no doubt about the relative locations of the stones

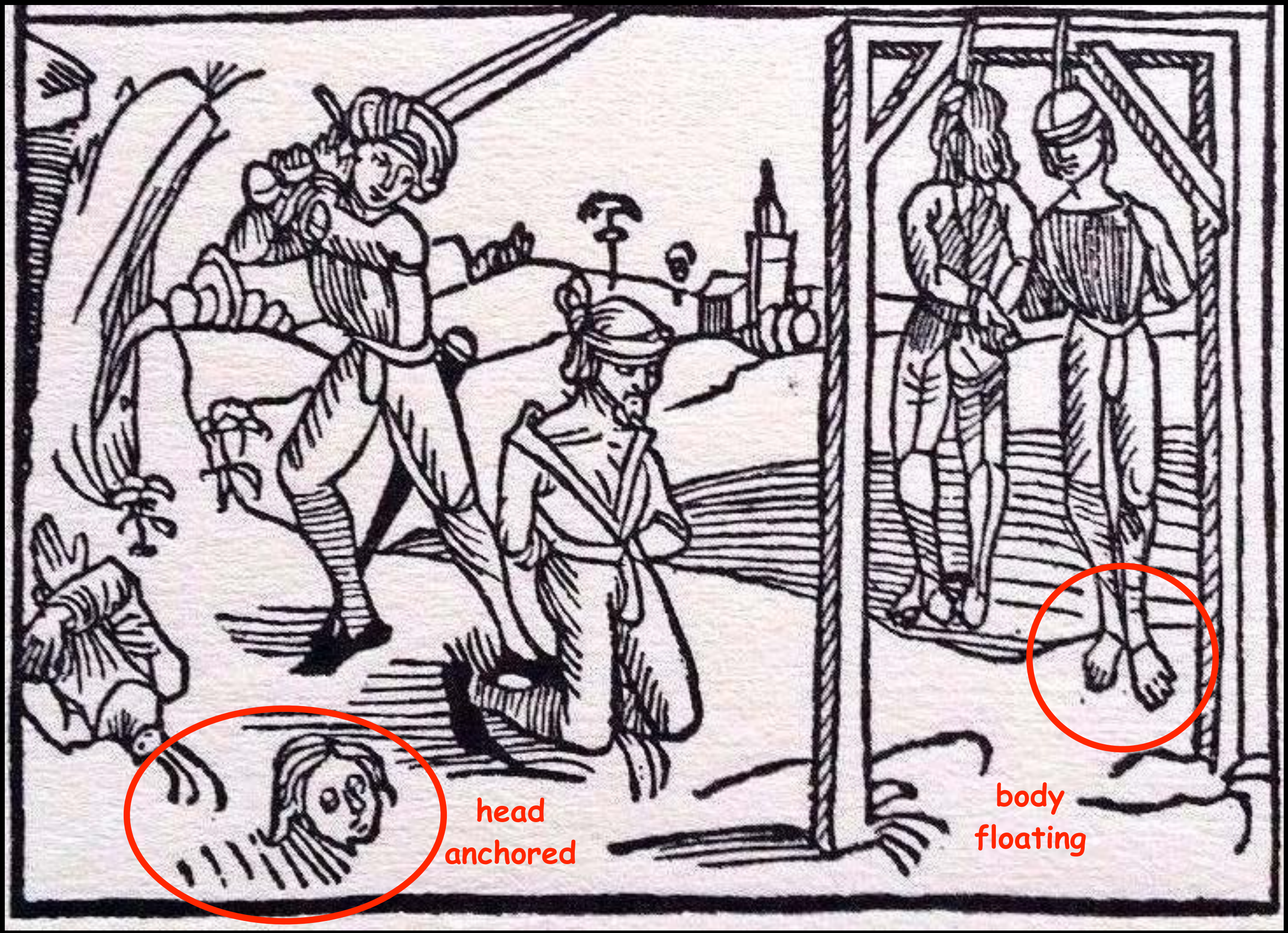


the stones are anchored to the ground surface

a demonstration of
FLOATERS

visual objects have
to be anchored to
some substrate

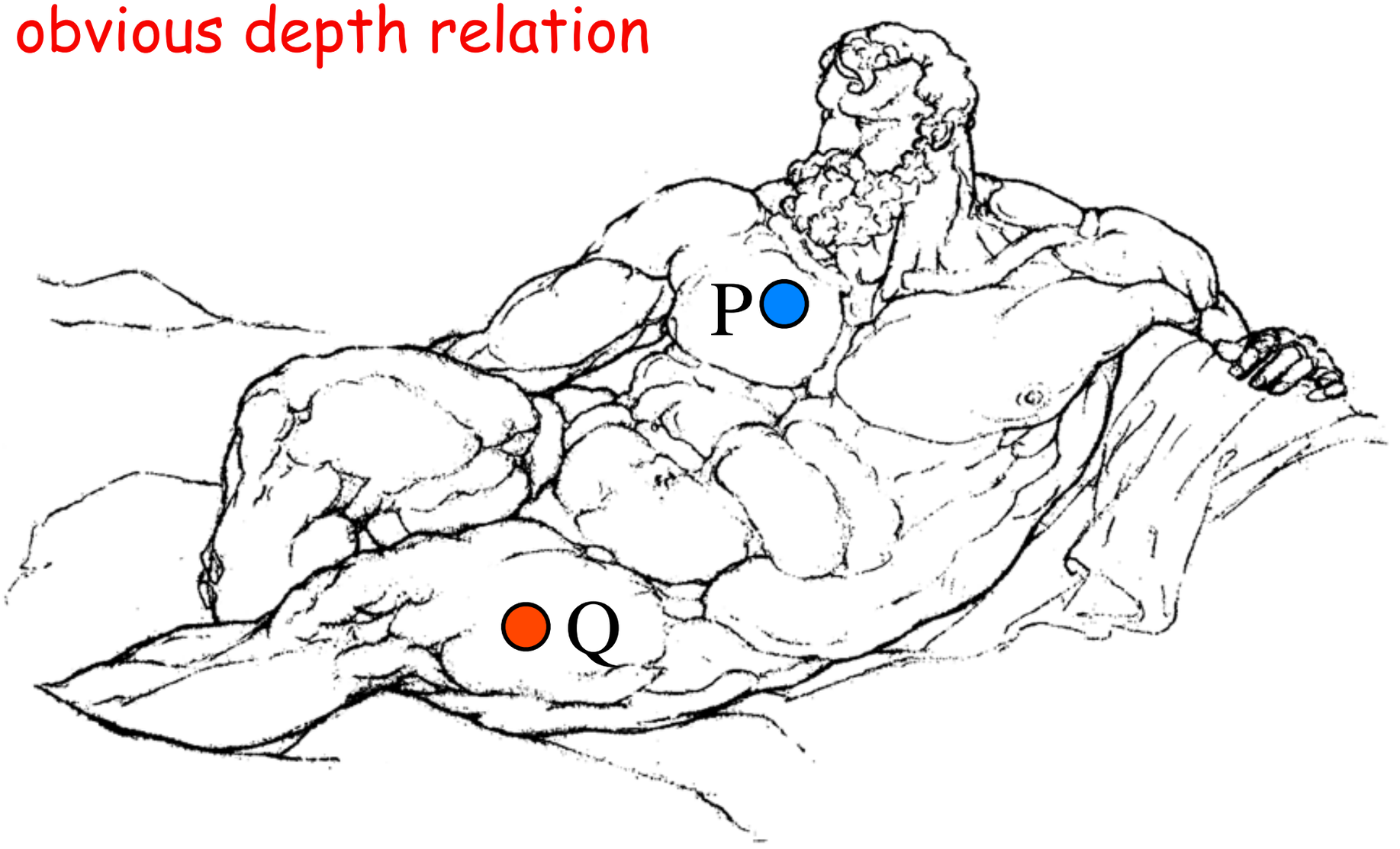
a ground shadow
always works


head
anchored
body
floating

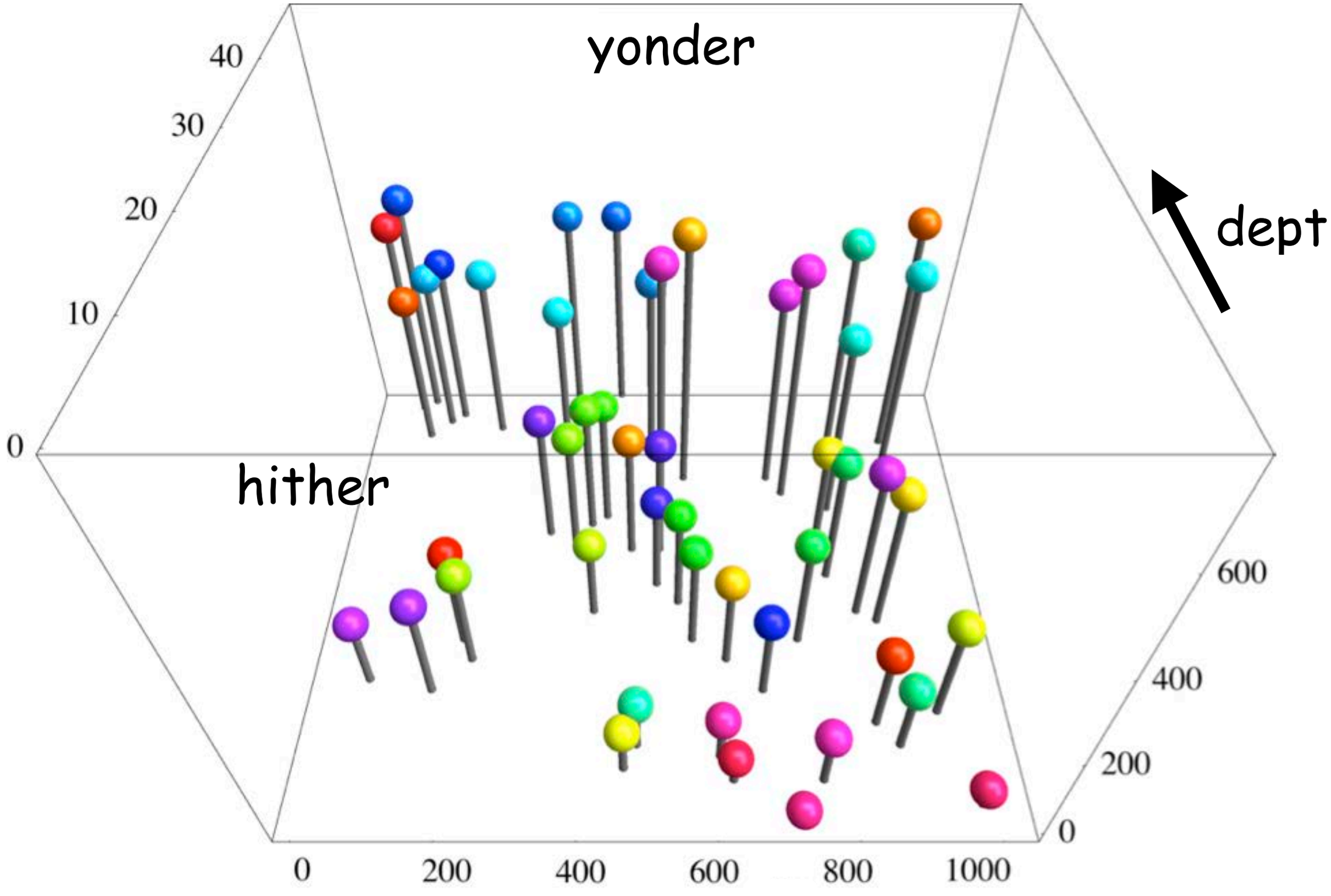
what works in a woodcut
works in a photograph

A and B have no obvious depth relation

P and Q are on a common surface, thus are related in depth



for any point pair you can ask "which one is closer?"
(experimental phenomenology)

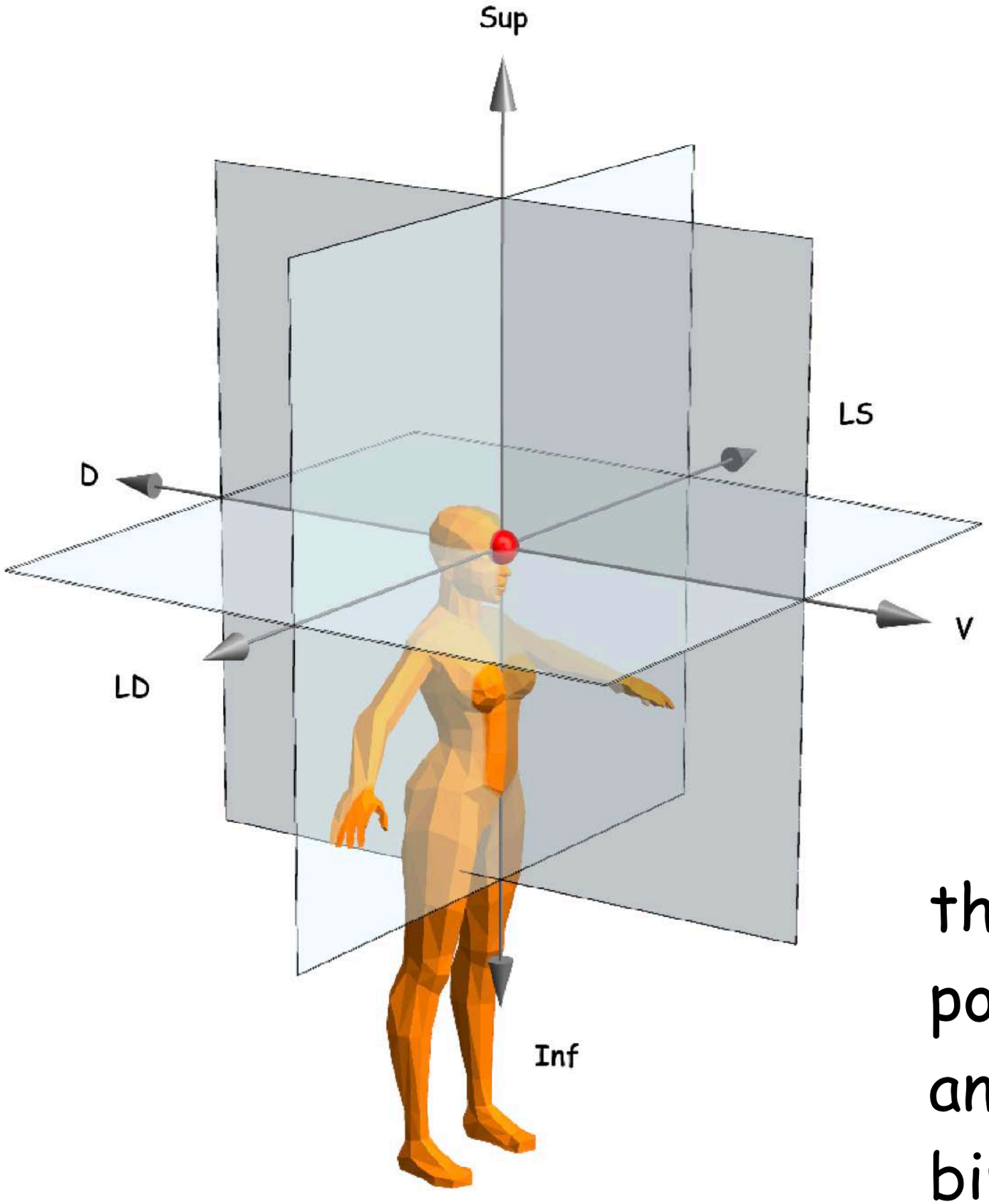


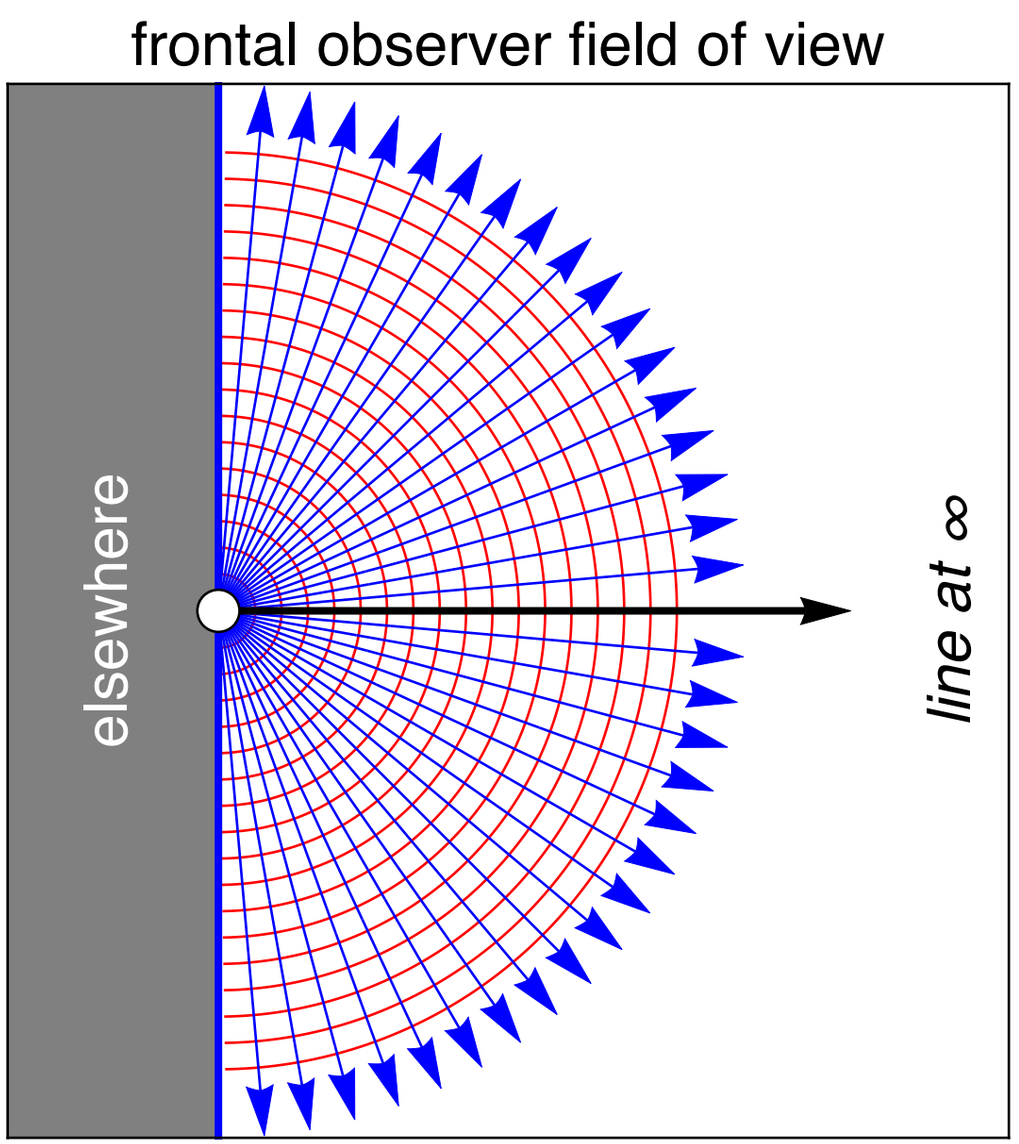
depth obtained from many 2-point comparisons

pictorial depth is FACT, not FICTION

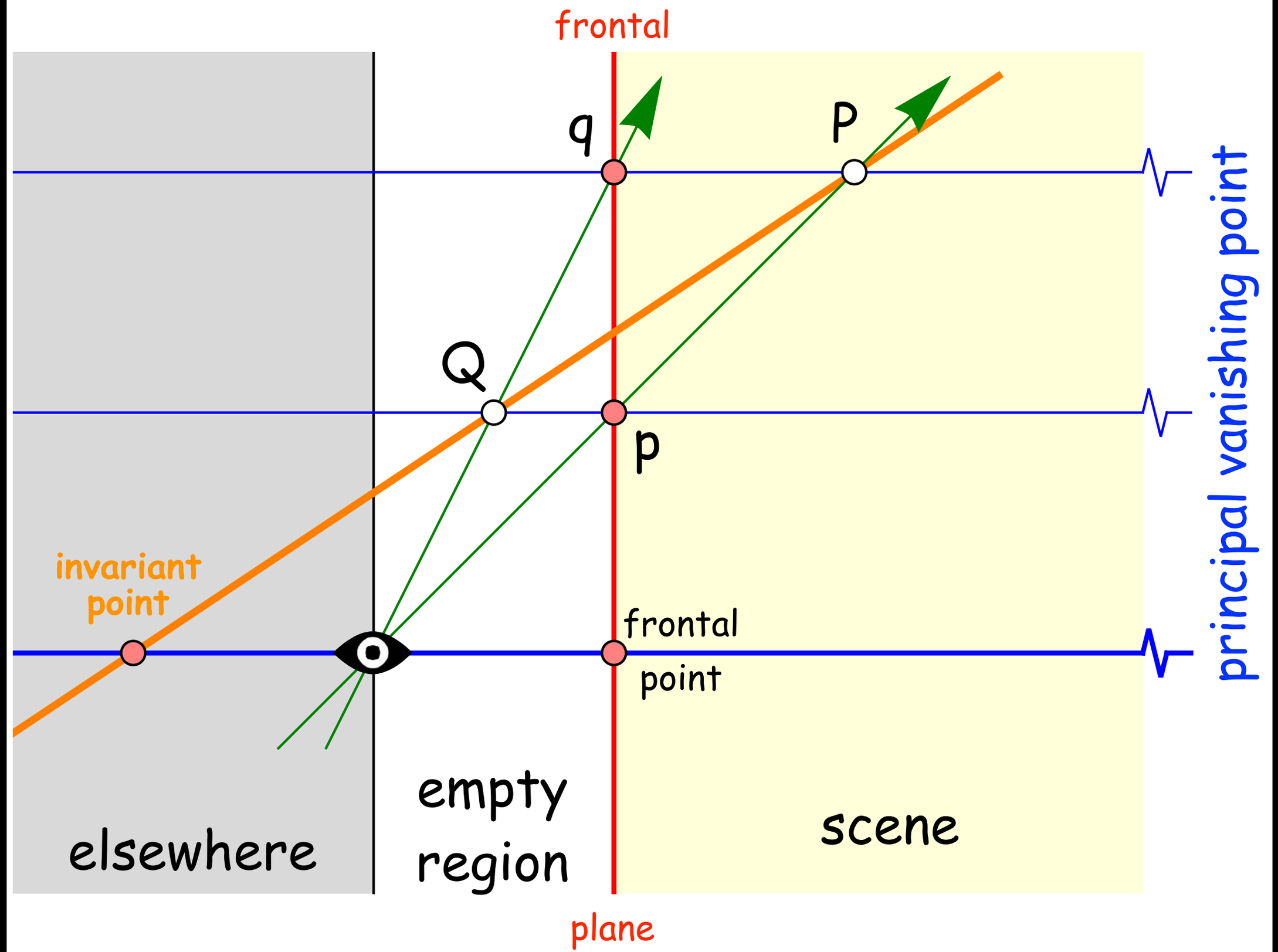
"PERSPECTIVE"

the construction of pictorial space

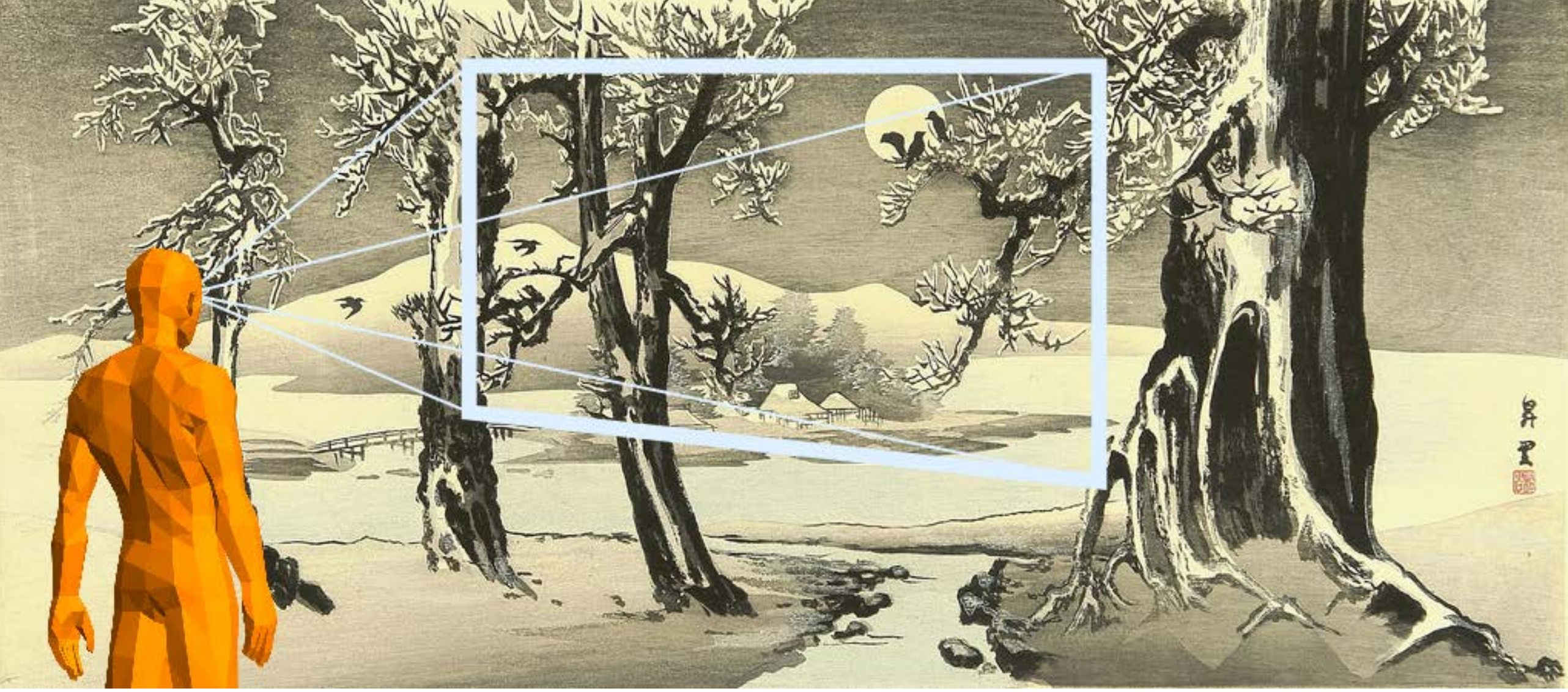


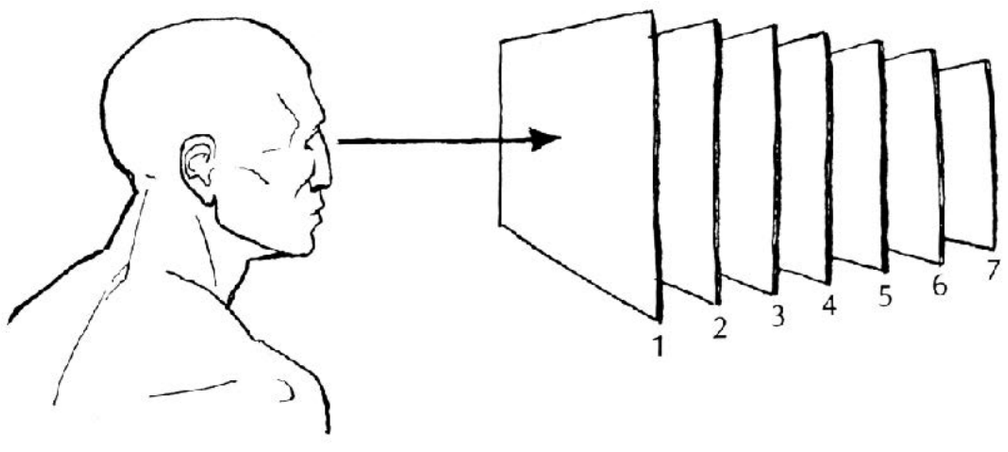


the human observer is polarized by frontal vision and a body tuned for bipedal locomotion



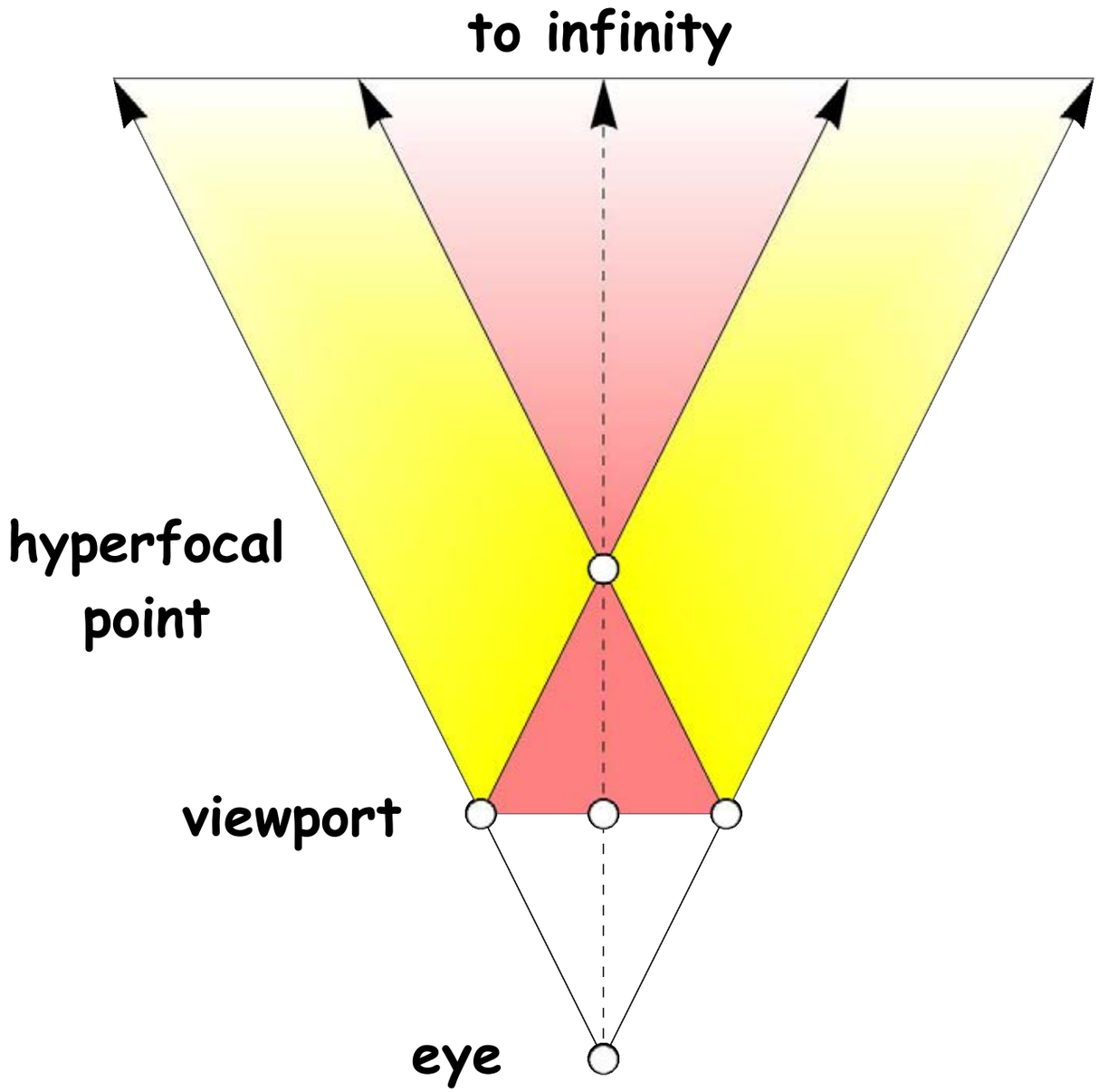
"**perspective**" is a hyperbolic involution that swaps the eye and the principal vantage point



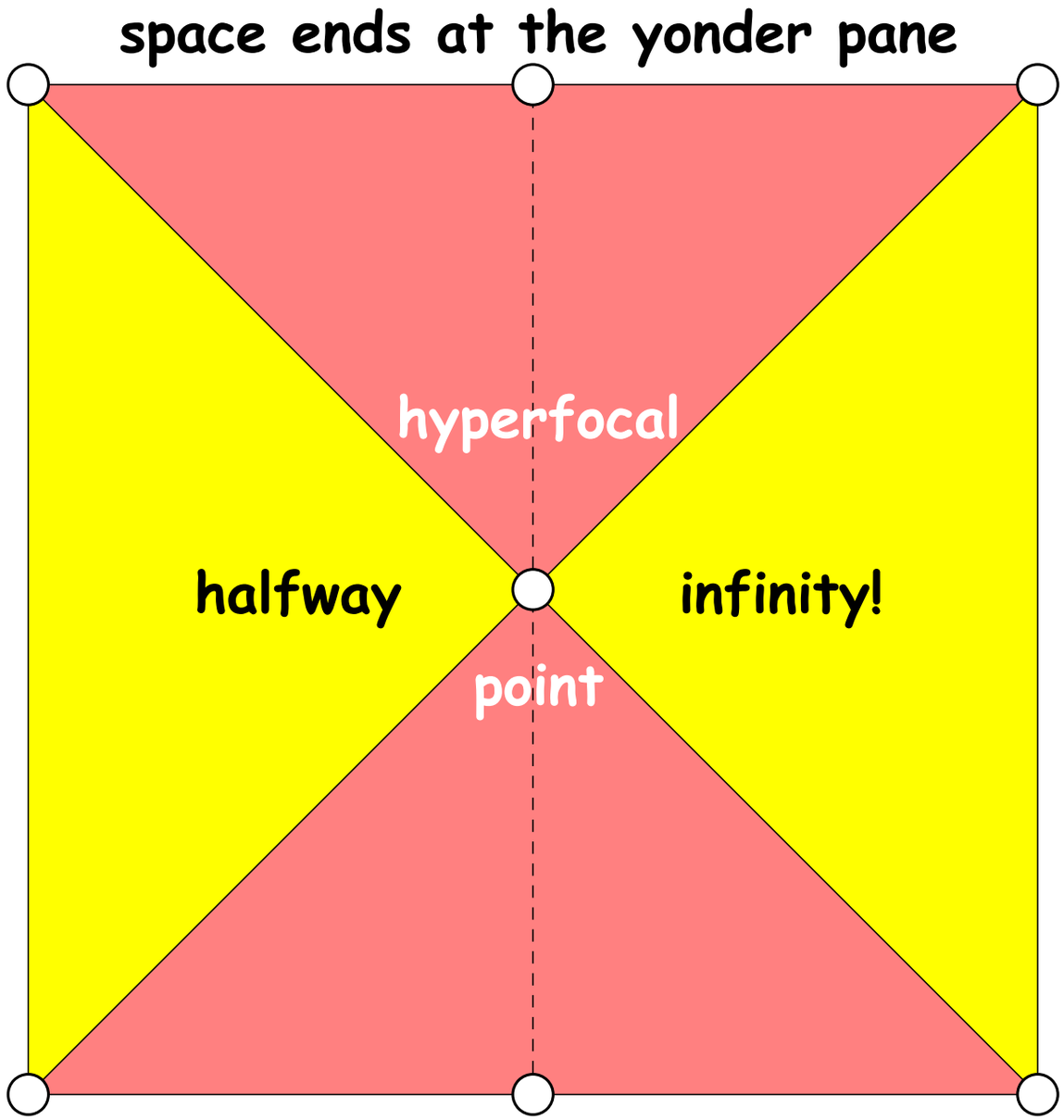


depth is read front to back by frontoparallel planes

reading starts at the viewport, which is momentarily set by situational awareness

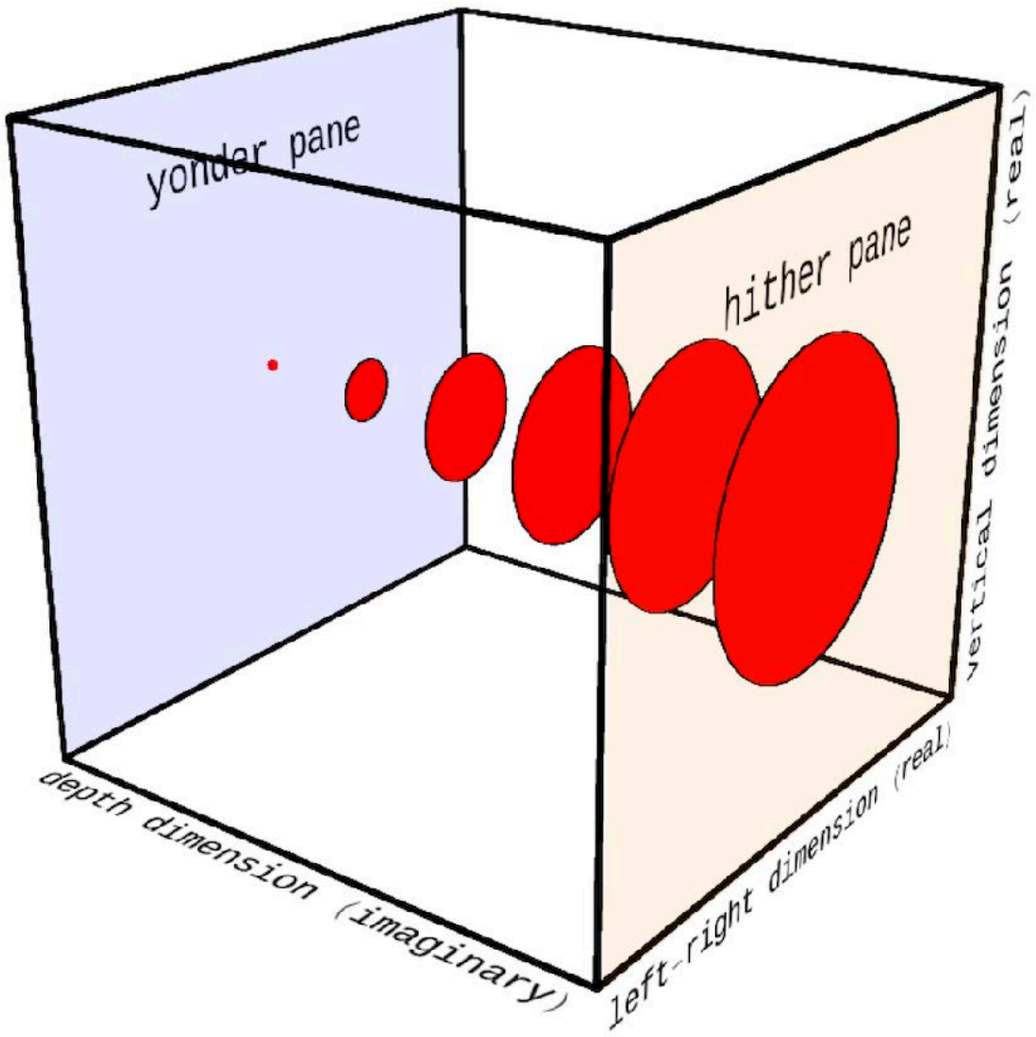


FRUSTUM (scene)

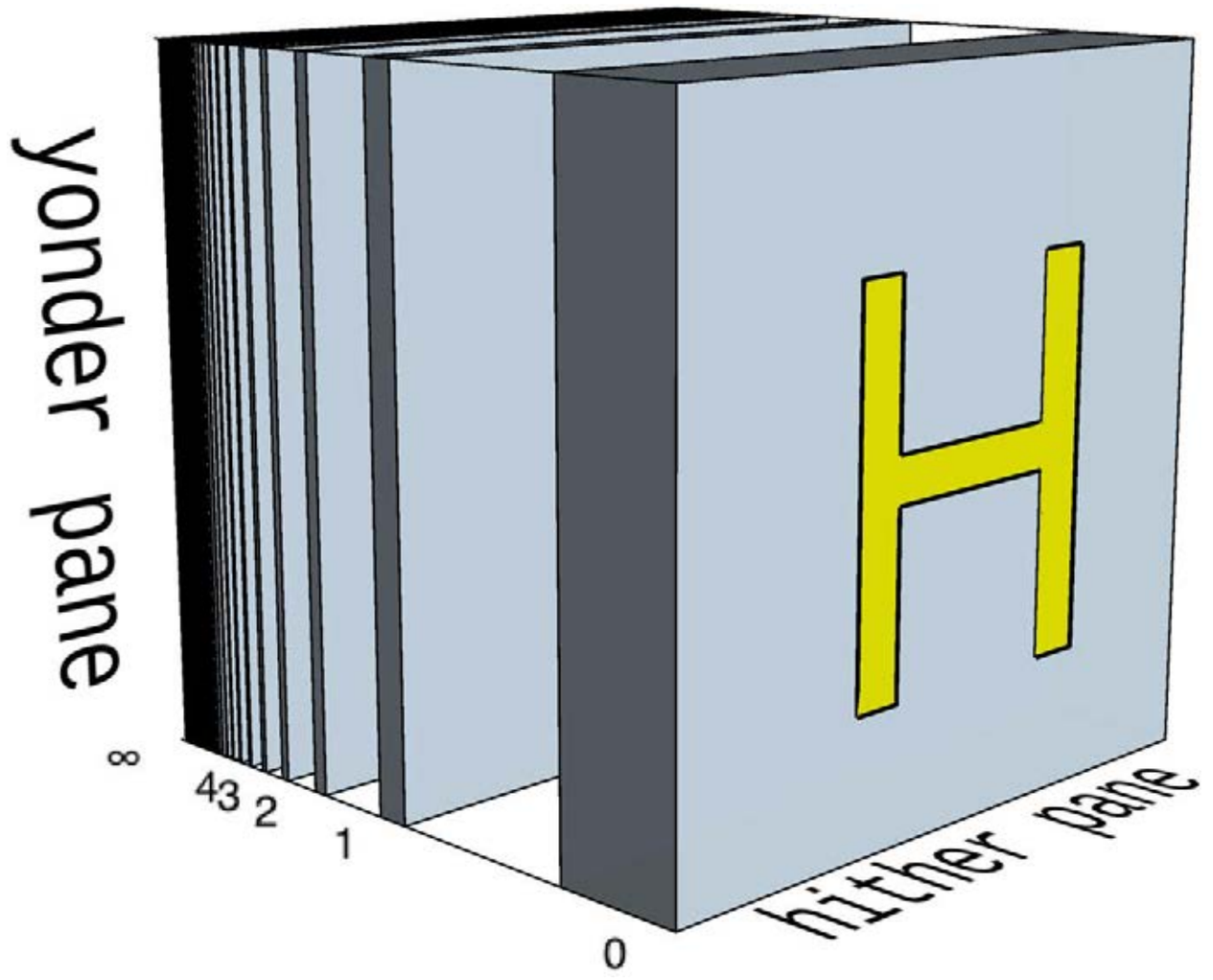


VIEWBOX (mind)

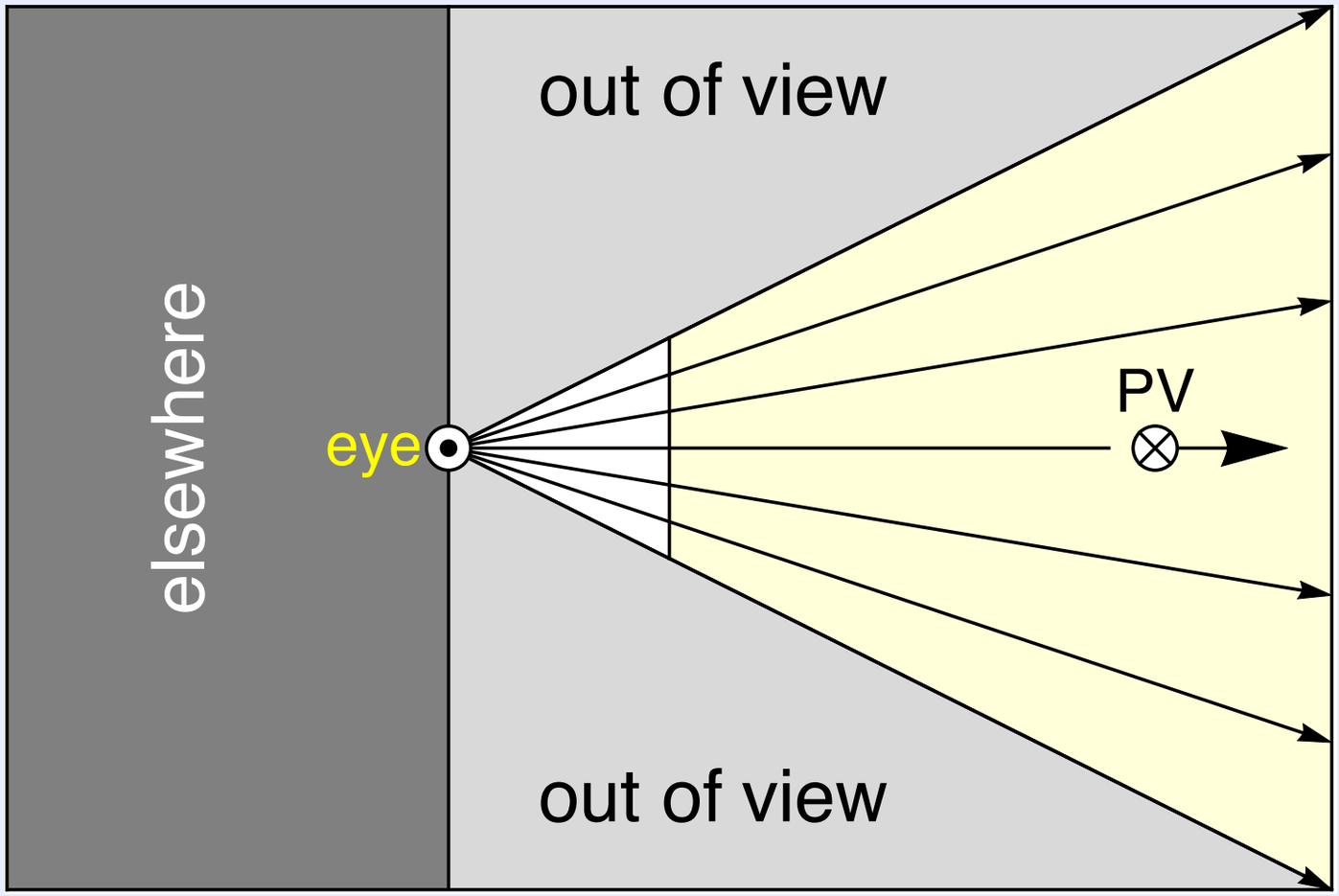
formally, the viewbox is just a projective map of the frustum



the deeper in the viewbox
the smaller things get in
the picture plane



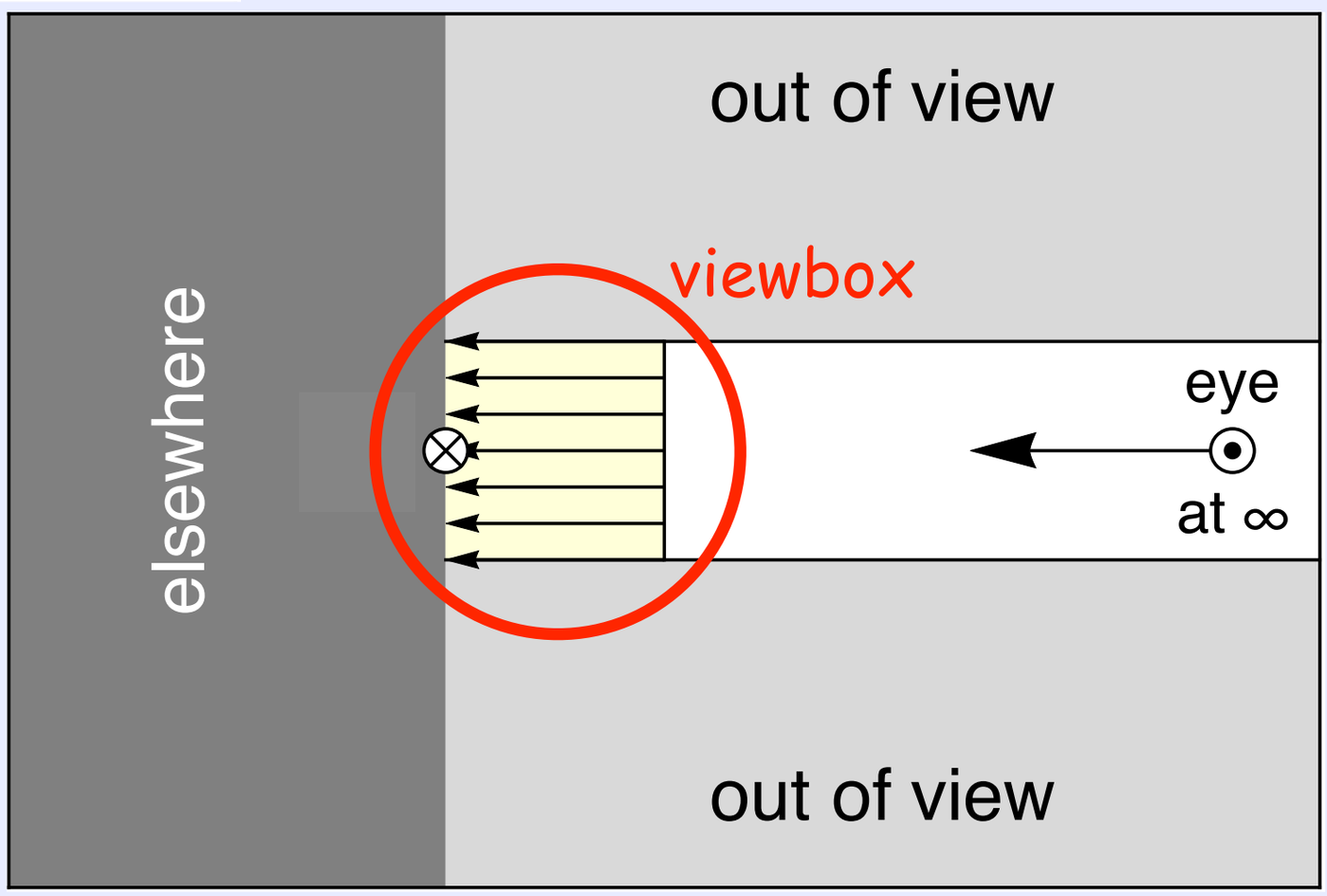
the deeper in the viewbox
the thinner space layers
become

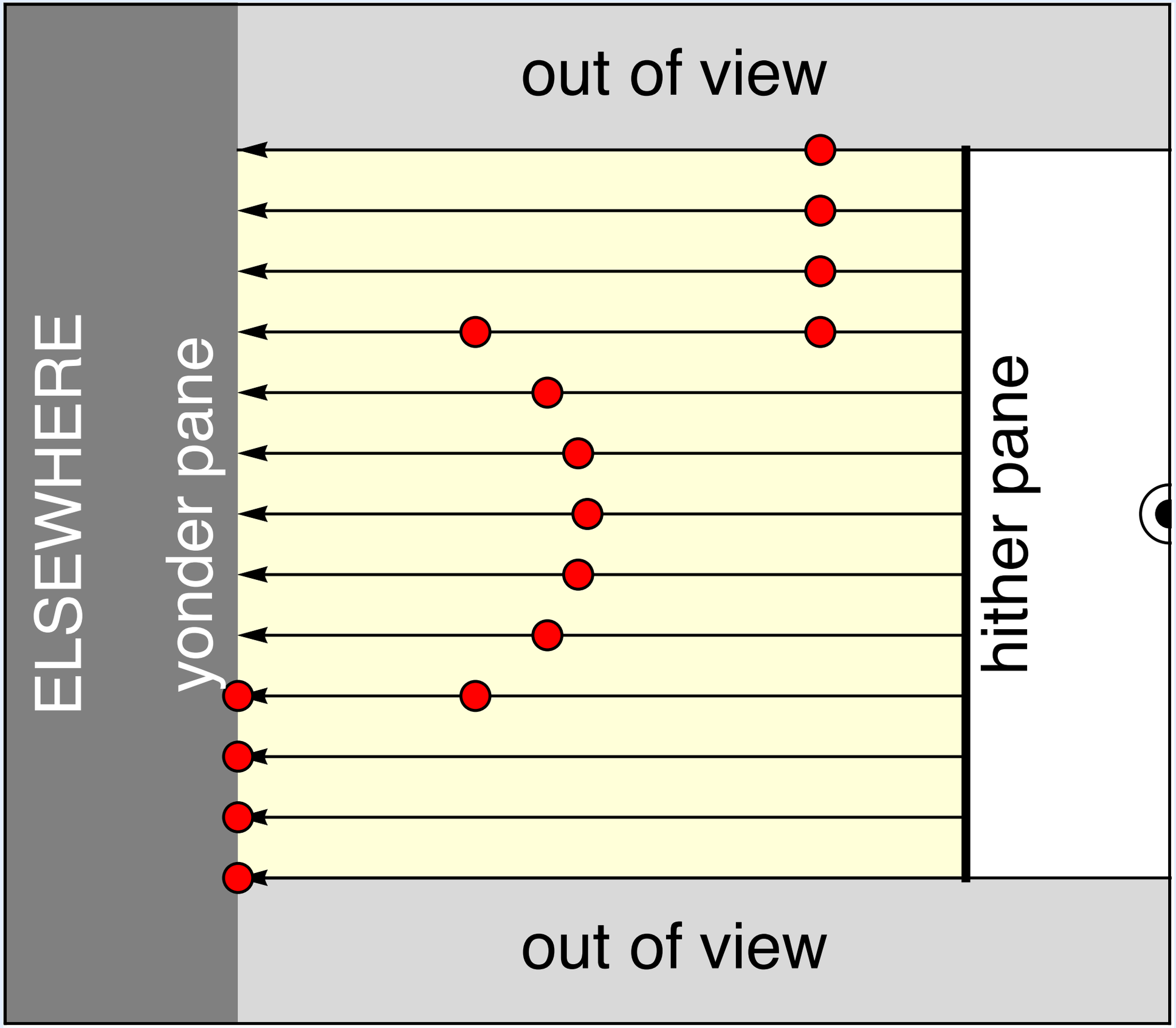


the topology of the field of view in physical space

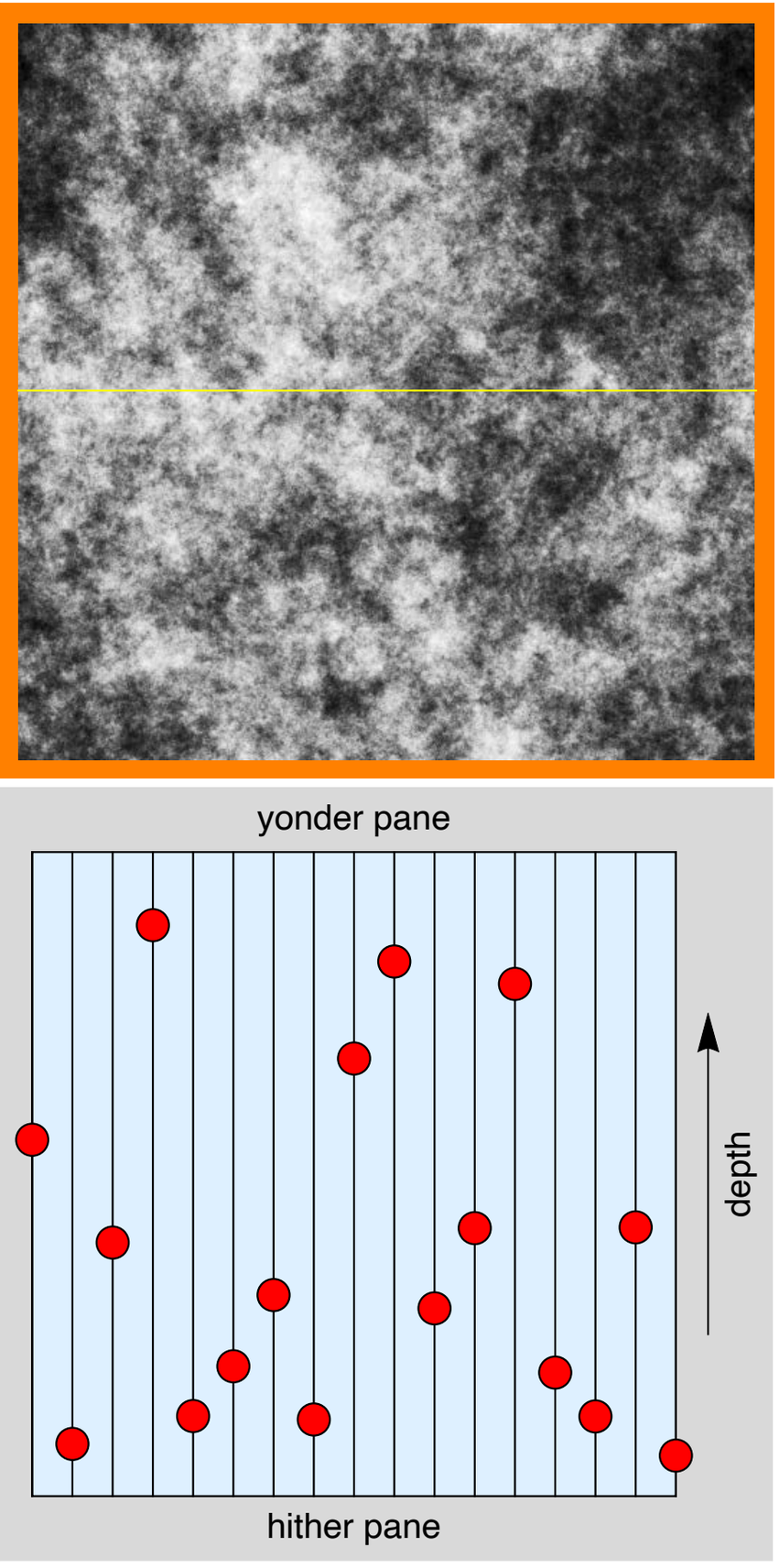
eye & principal vanishing point swapped!

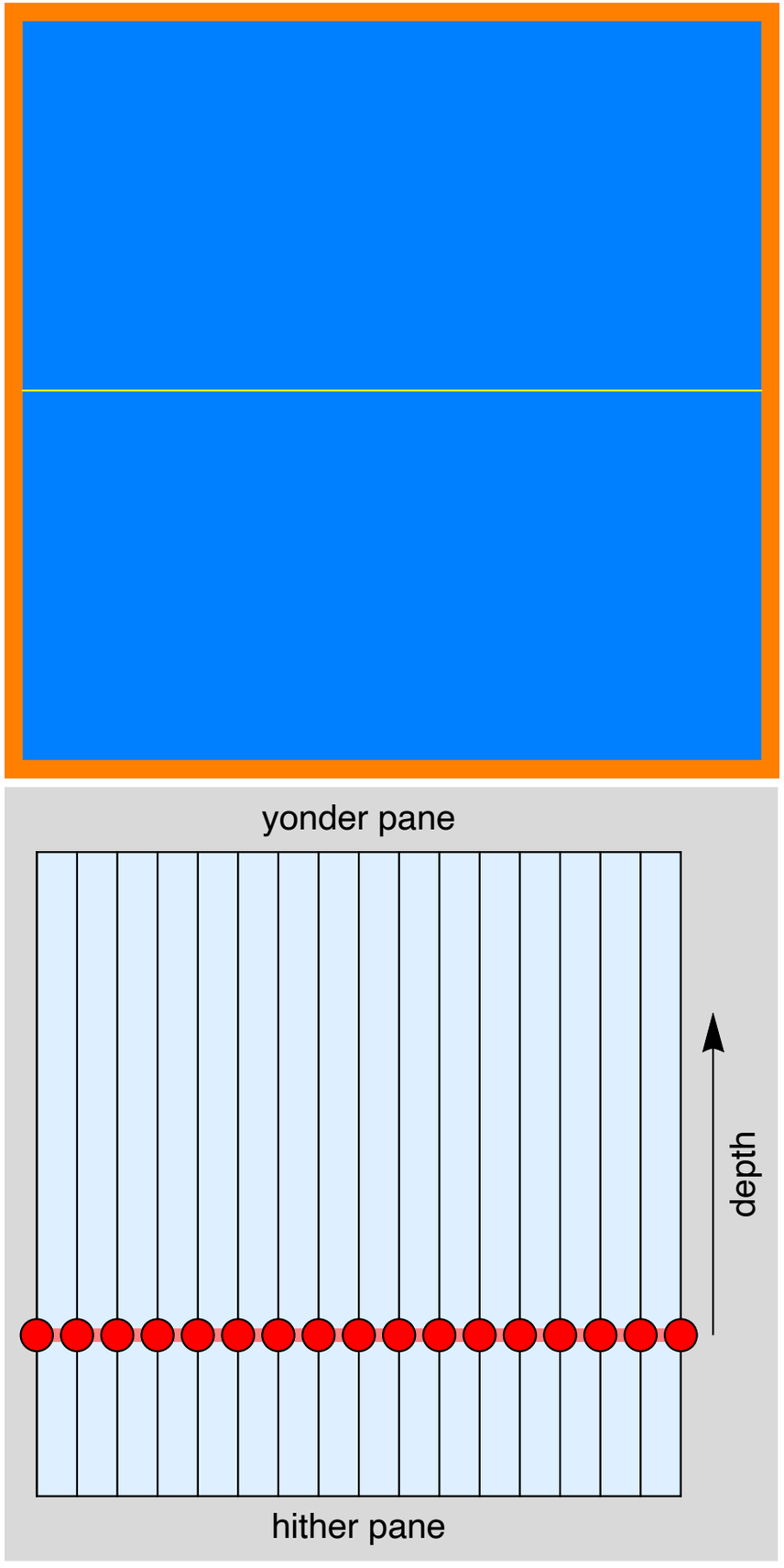
the topology of the field of view in mental space

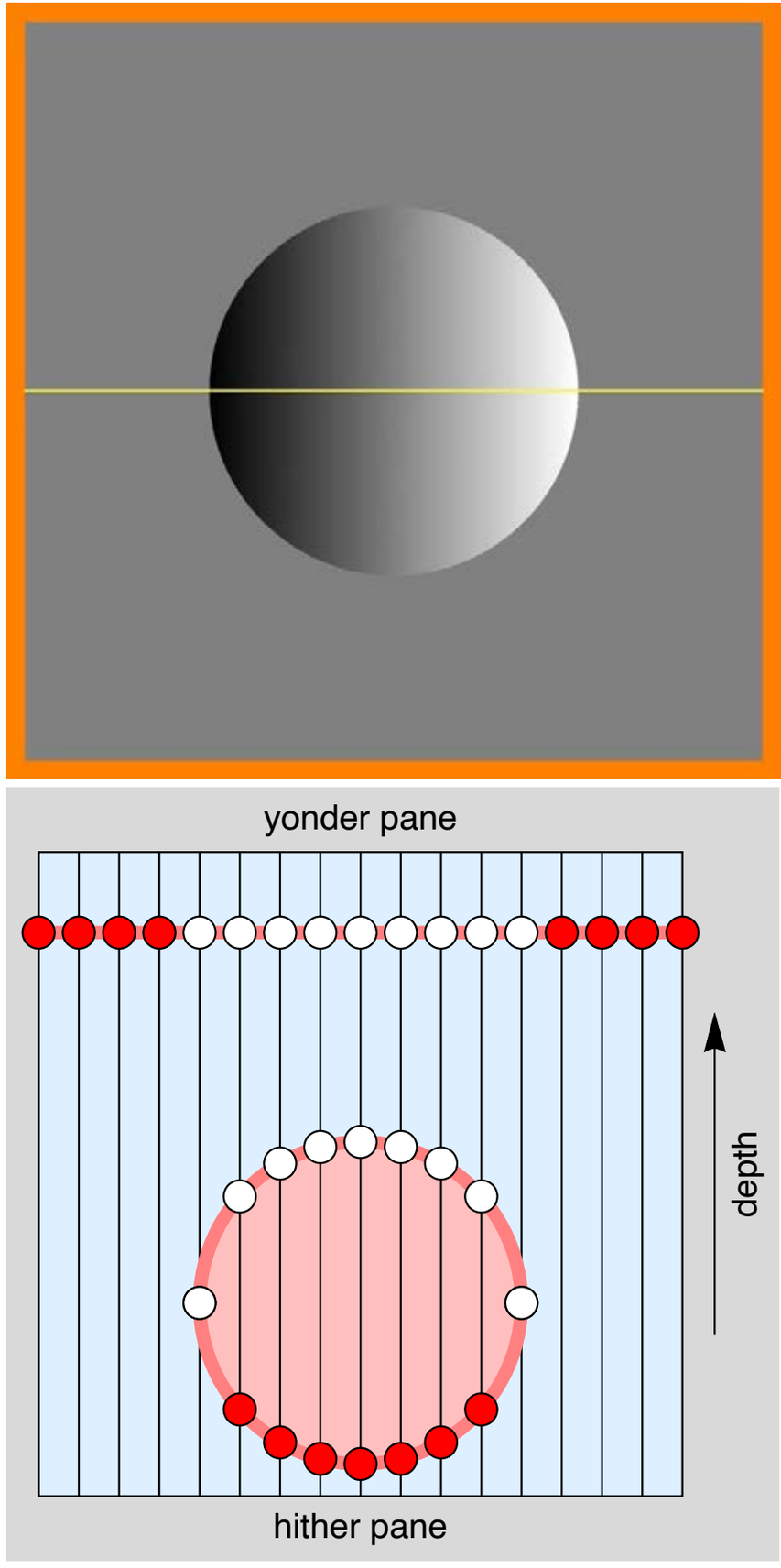




the abacus model of psychogenesis of awareness







the abacus model of the psychogenesis of pictorial space

<- bead shifting
ambiguous

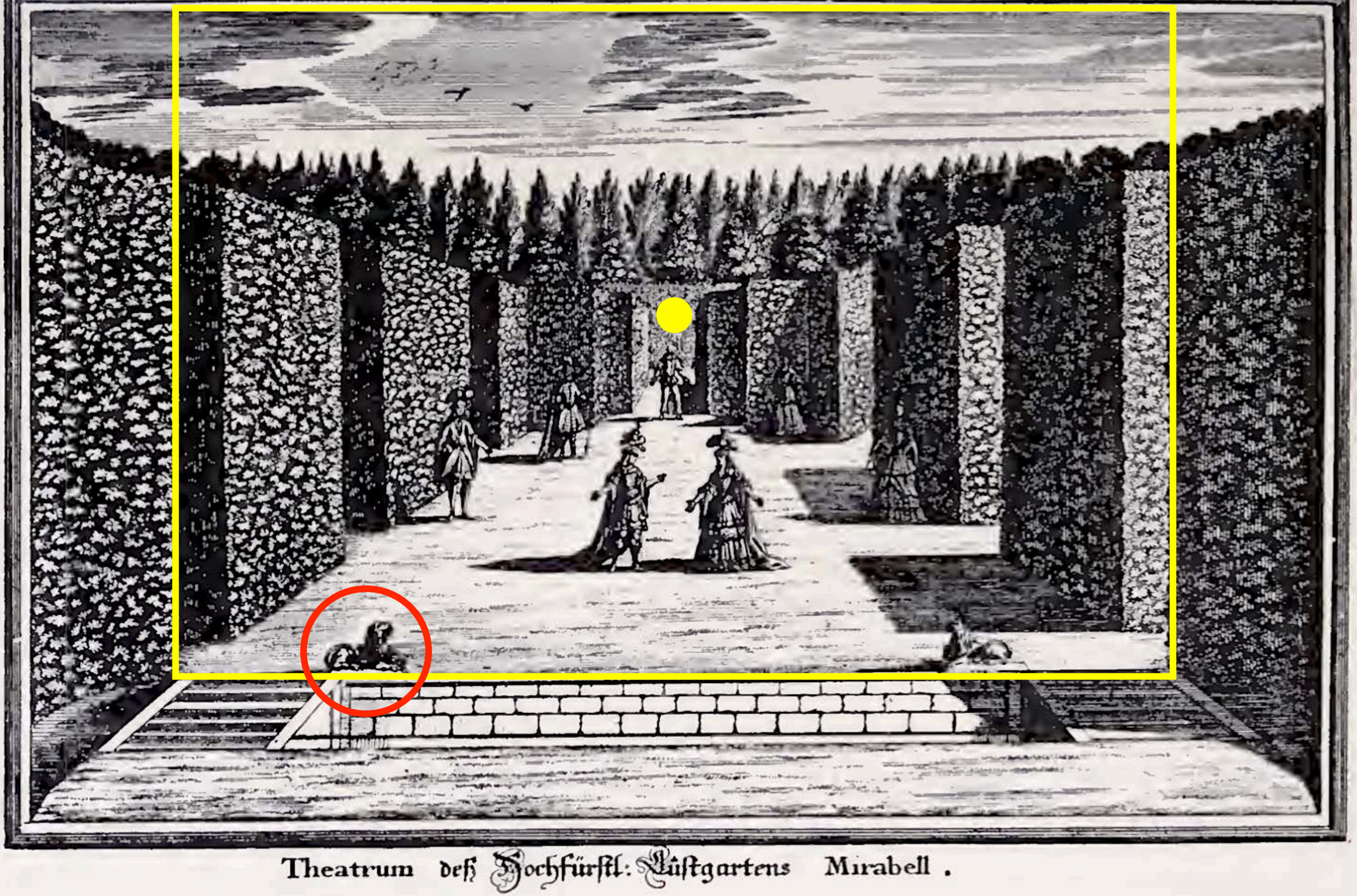
no bead shifting
involved ->

how long is Nefertiti's nose?

volumetric space is read fore to aft

"beads are launched into depth"

the actual depth range is irrelevant



Theatrum deß Hochfürstl: Lüstgartens Mirabell .

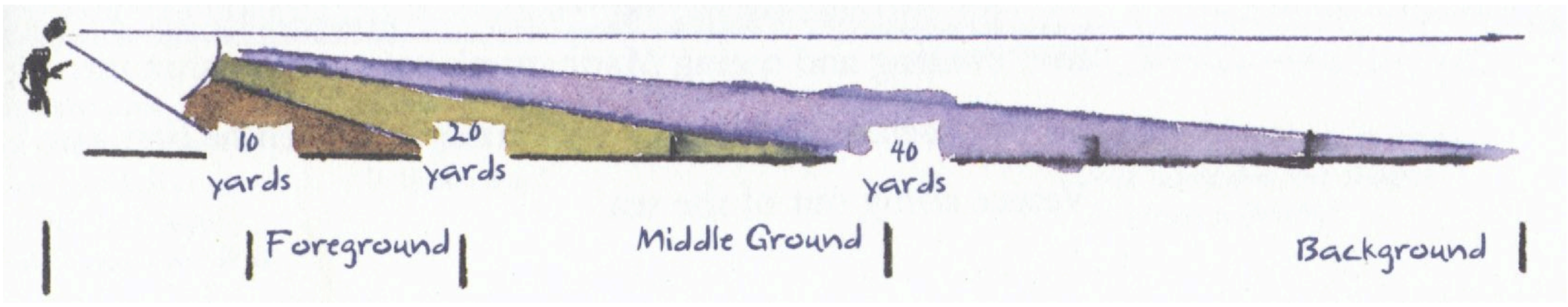
"scenography' in garden theatre design

museum diorama with intruder, spoiling the “illusion”

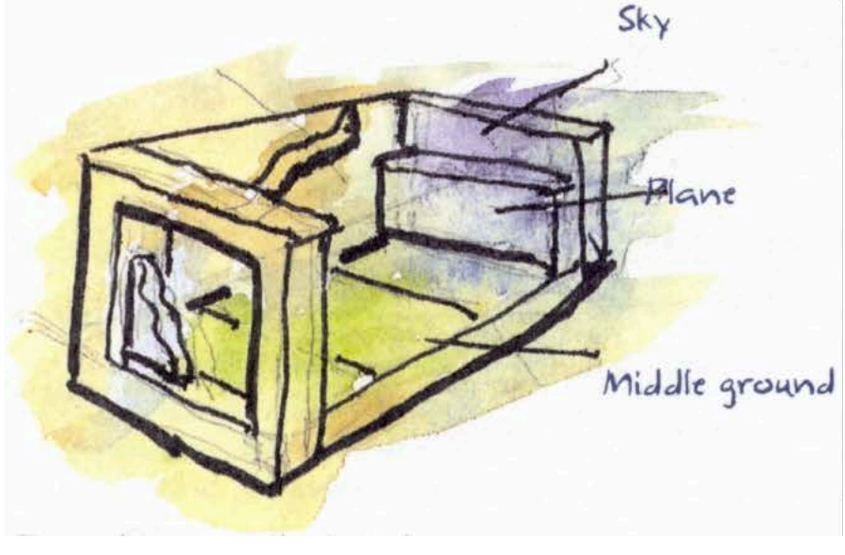
scenographic design,
meant to be viewed frontally

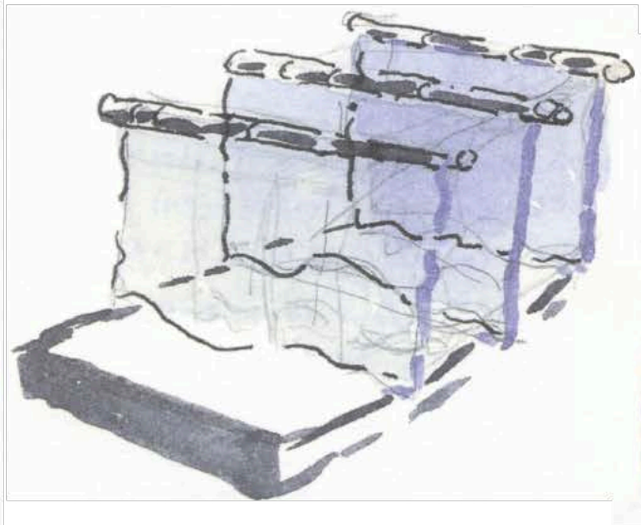
PICTORIAL REPRESENTATION

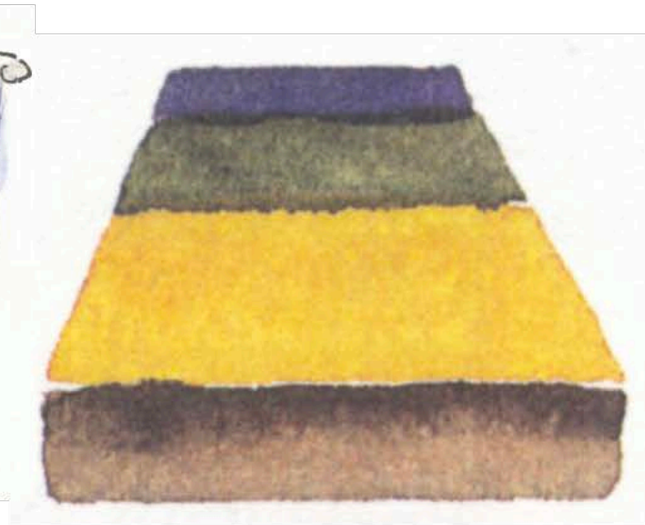
viewport (-> picture plane)



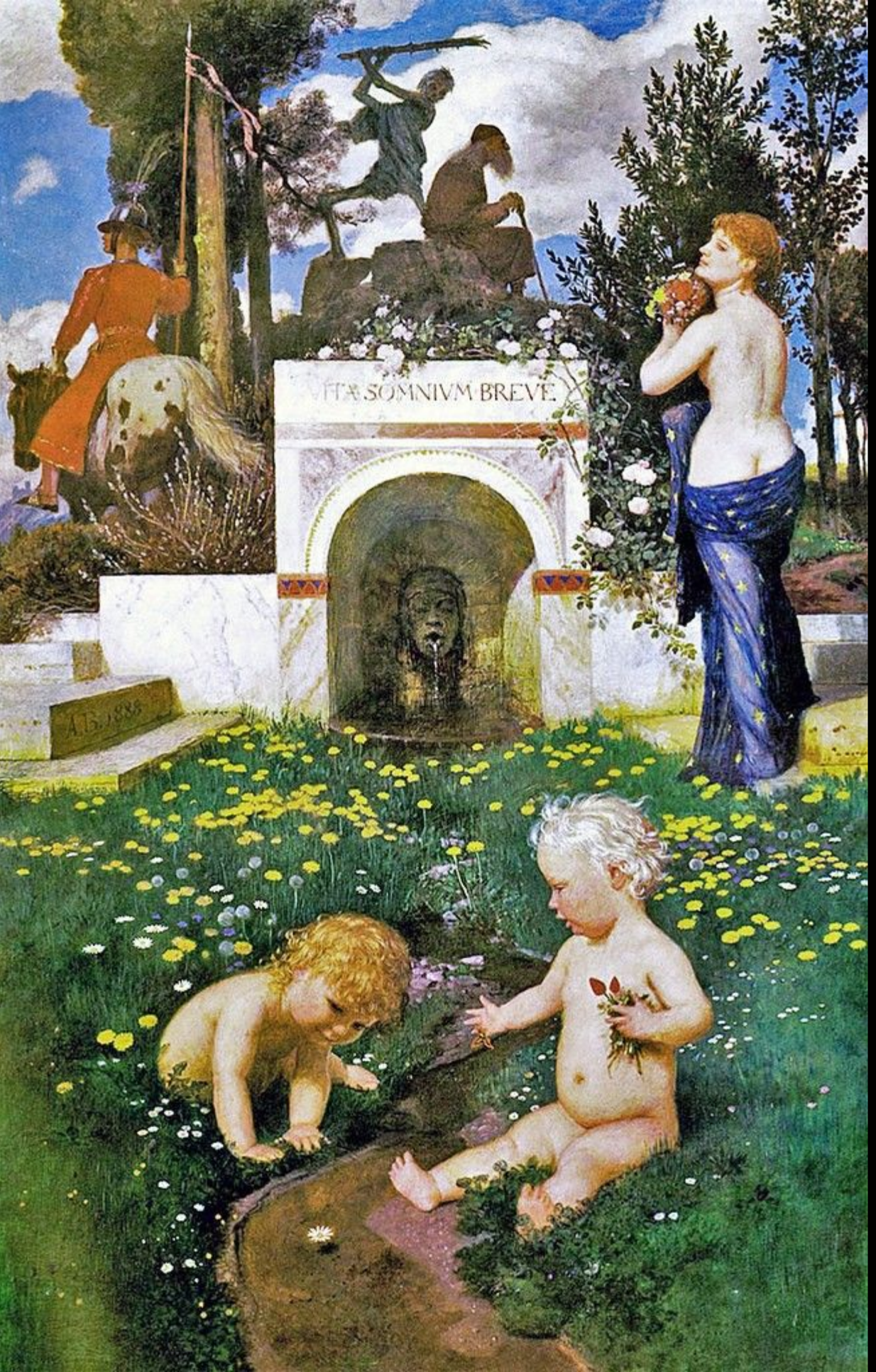
side view showing distance







ways to conceive of the viewbox



Arnold Böcklin's painting
VITA SOMNIUM BREVE
makes a good example of
composition in the viewbox

the fountain is located about
halfway (∞/2) the viewbox,
the hither pane is in front of
the children, the blue sky is
the yonder pane, a backdrop

in the picture plane one has a circular composition centred on the fountain head

it has no (anti-)clockwise sense

such was only part of Böcklin's intention

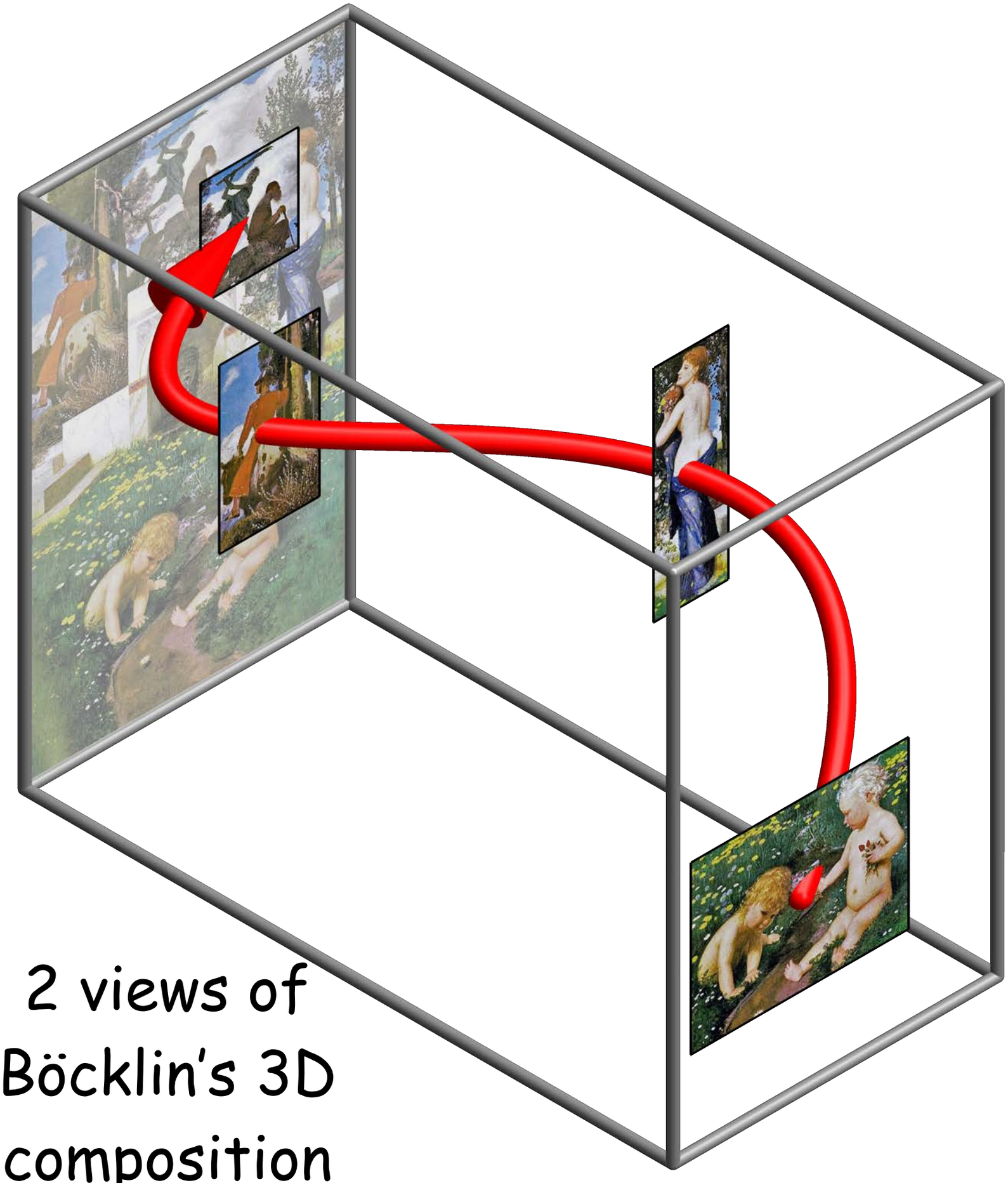
the planar design is pretty tame and unrelated to the picture's meaning – although it does trigger the first impression

in the viewbox there is an evident progression from beginning to end

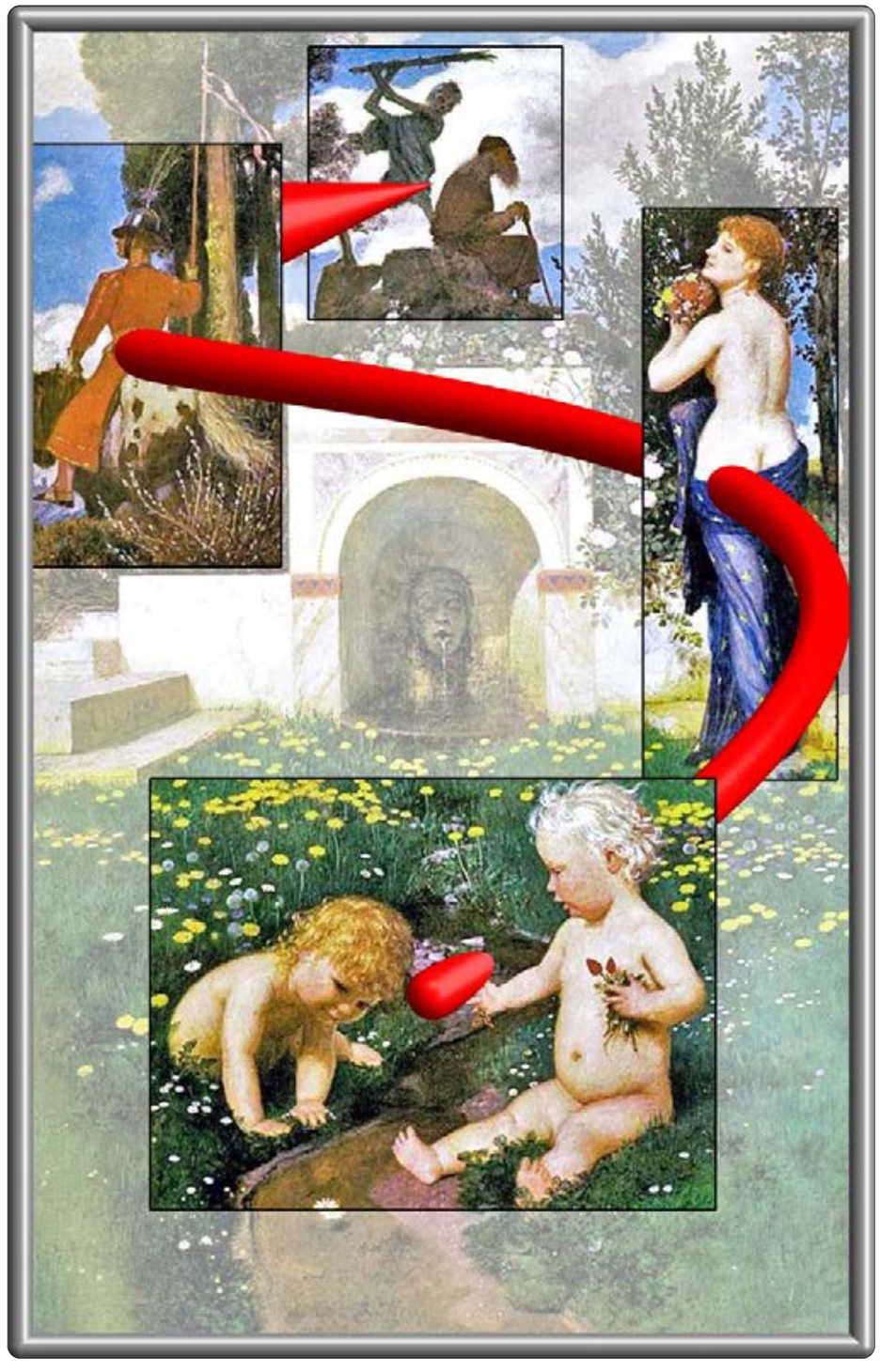
it is crucial to the picture's meaning "life a short dream"

the progression in the composition is a twisted spiral in the viewbox
it cannot be shown in 2D

the viewbox is a key compositional tool



2 views of Böcklin's 3D composition



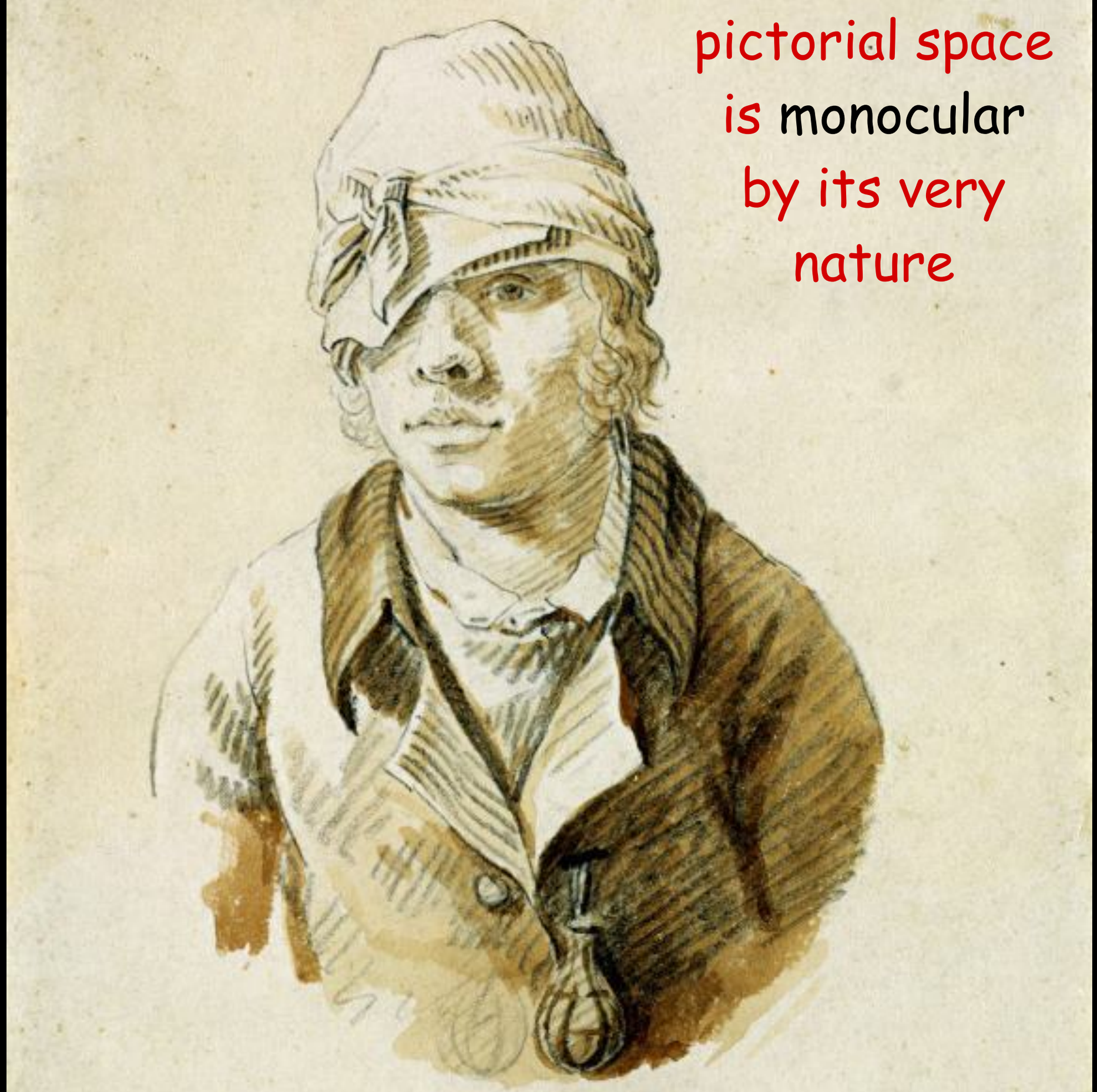
ICONIC IMAGES

pictures are pigments on canvas

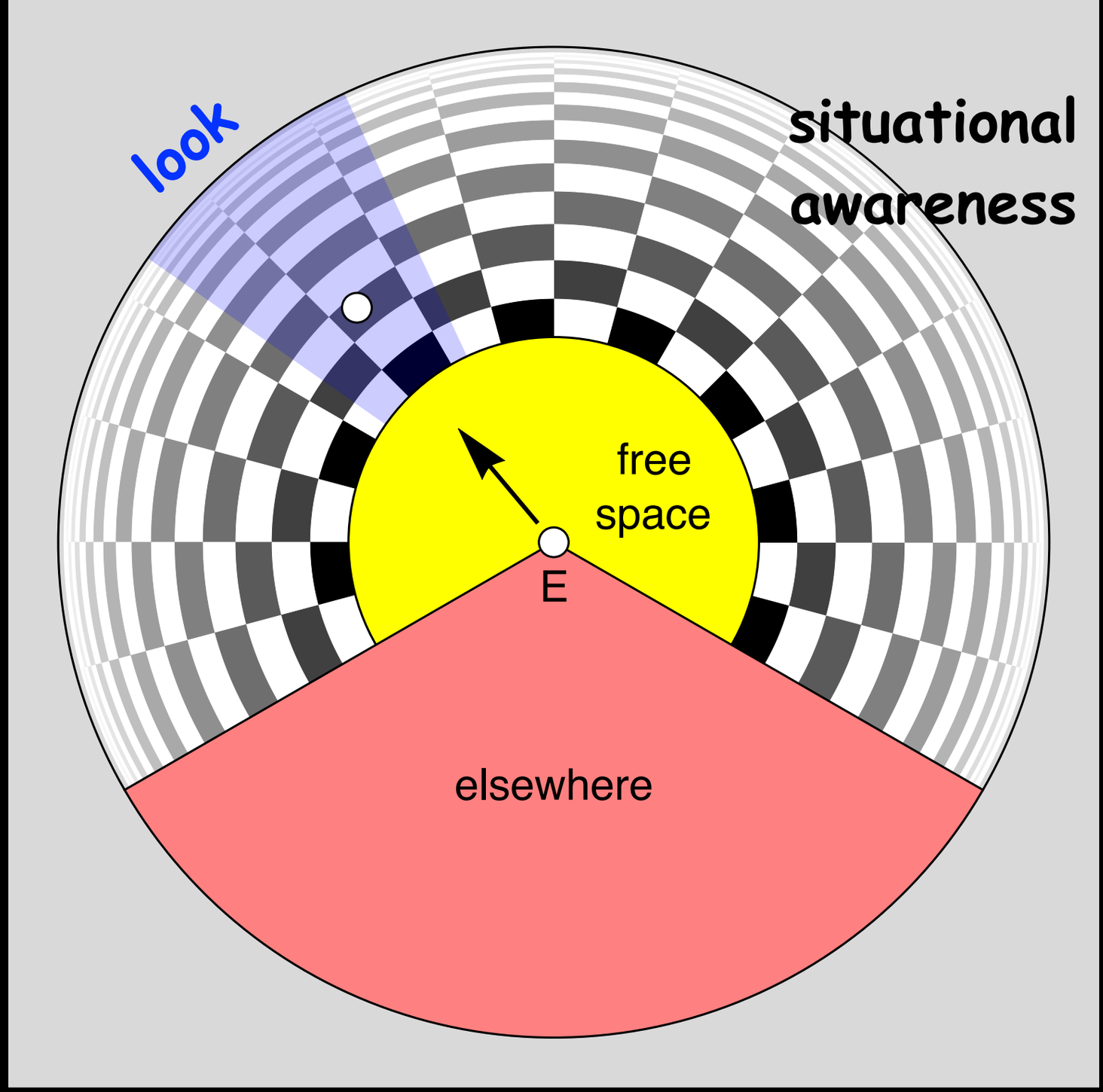
images are mental figments

the beholder is just as important as
the picture crafter in creating imagery

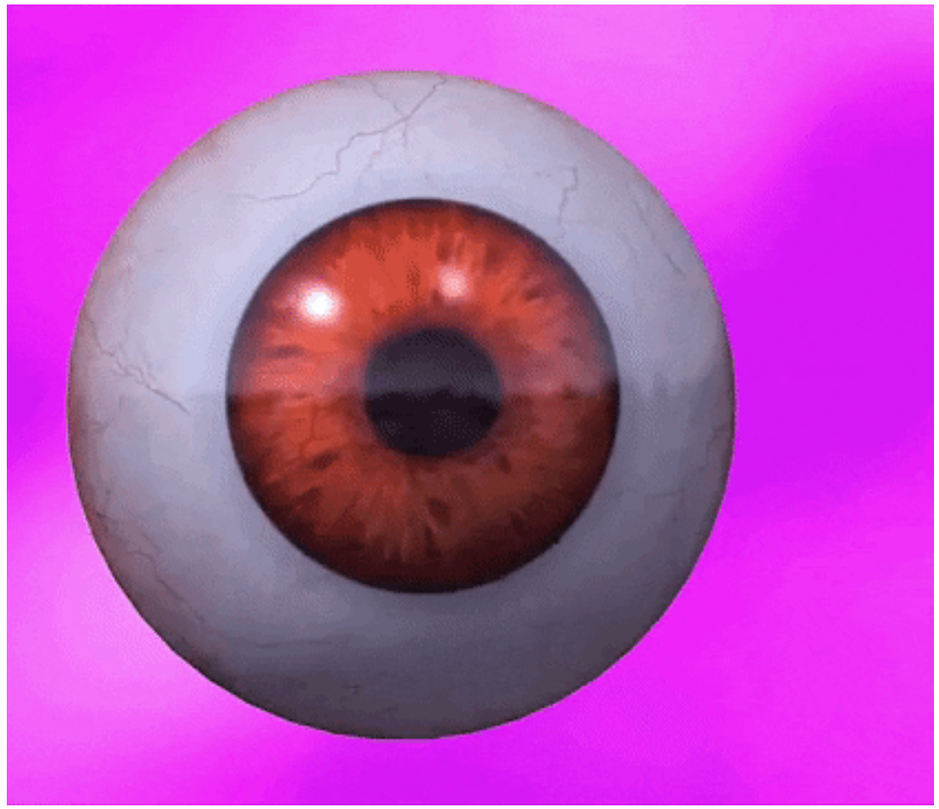
pictorial space
is monocular
by its very
nature



Caspar David Friedrich



the Field of Regard is a quilt of "looks"
embedded in situational awareness
- it is not "iconic" -



the "perspective centre" of optical situational awareness is ill defined

- centre of the pupil
- rotation centre of the eyeball
- atlantoaxial joint of the neck
- body movements

"iconic vision" requires static, monocular looking

in order to appear ICONIC (a single thought)
a distant view (single fixation) is required

"distant"
implies
detached

Honoré Daumier

it is Adolf von Hildebrand's Fernbild notion

a picture
is not
a window

Salvador Dali

Karin Jurick

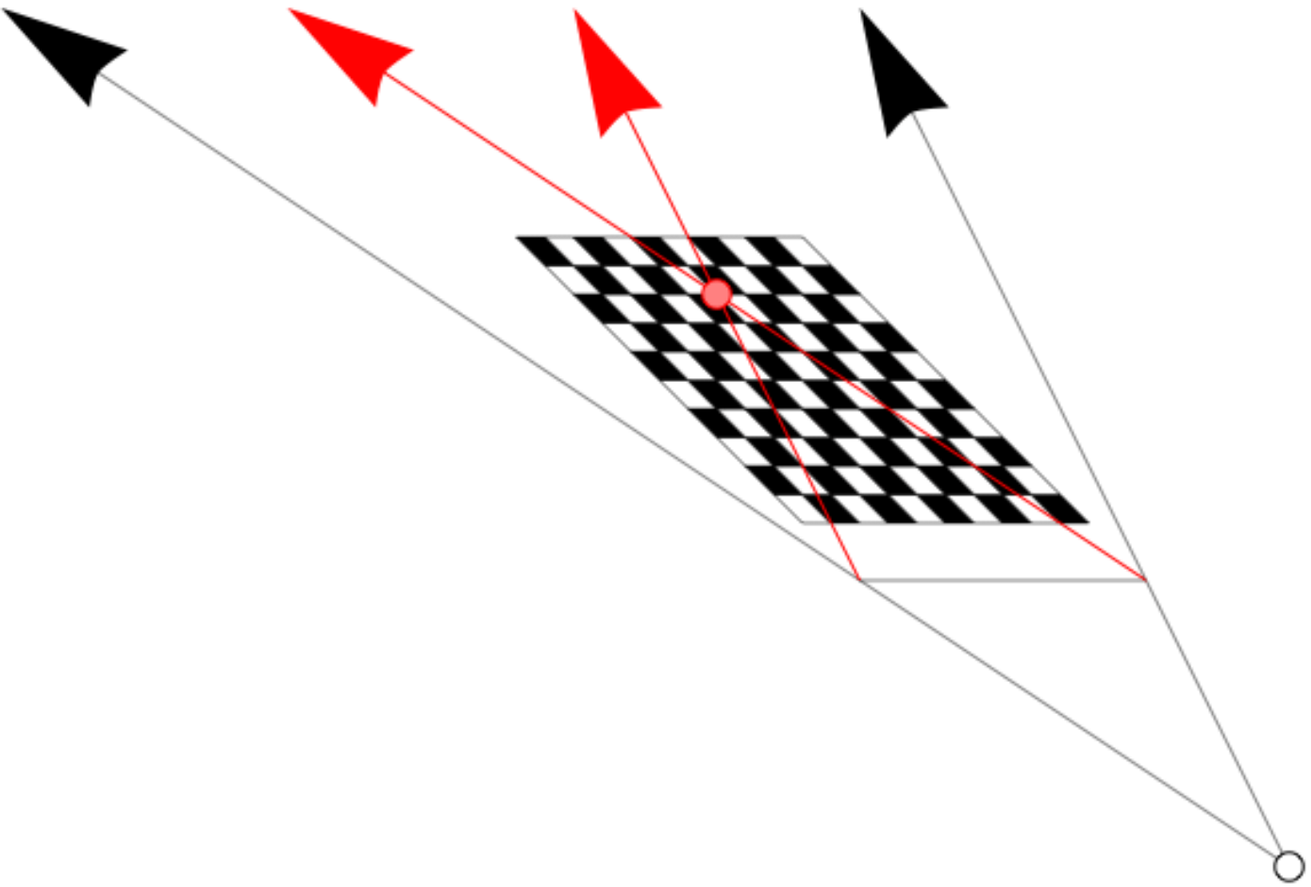
do they "see" the "same" thing? "Official" theory says NO!

Karin Jurick

Death's arrow always points at you – the oblique Death is even skinnier

WINDOW viewing – the content of the frustum

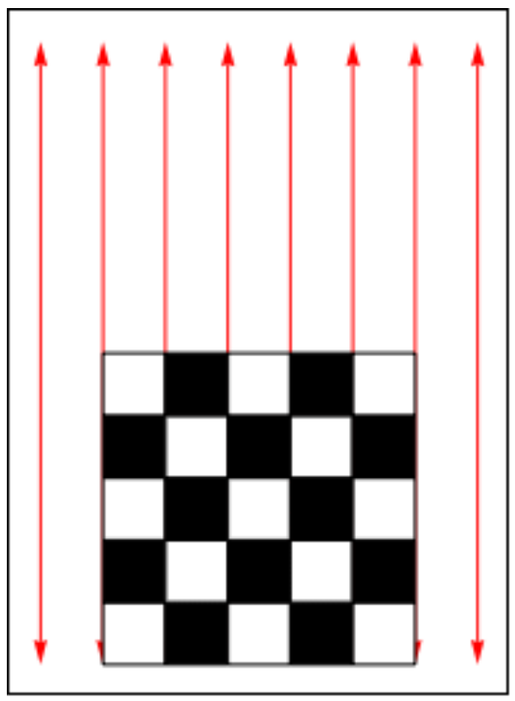
equivalent configurations



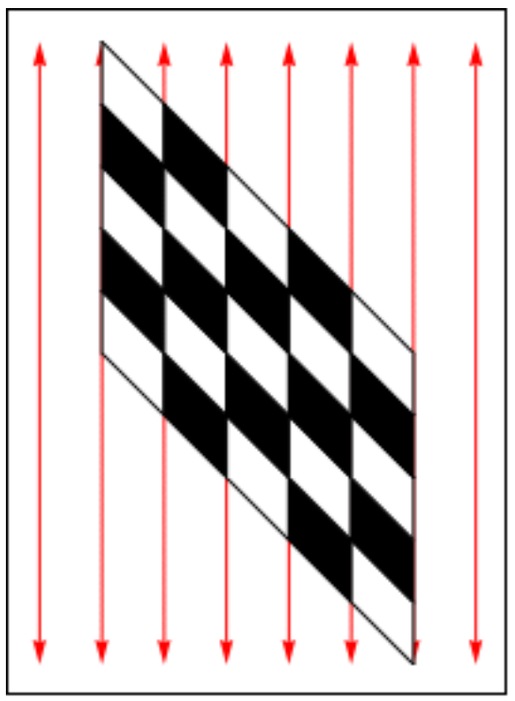
yield the same picture

such equivalences find use in stage design

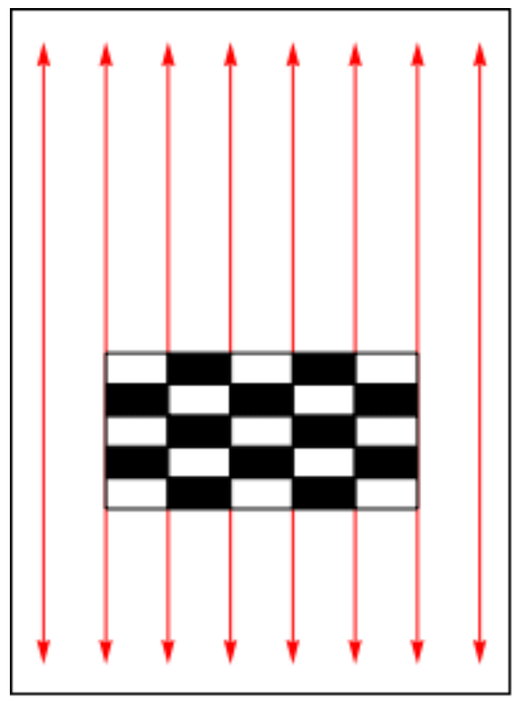
the bead shifting game respects the picture



translation
in depth



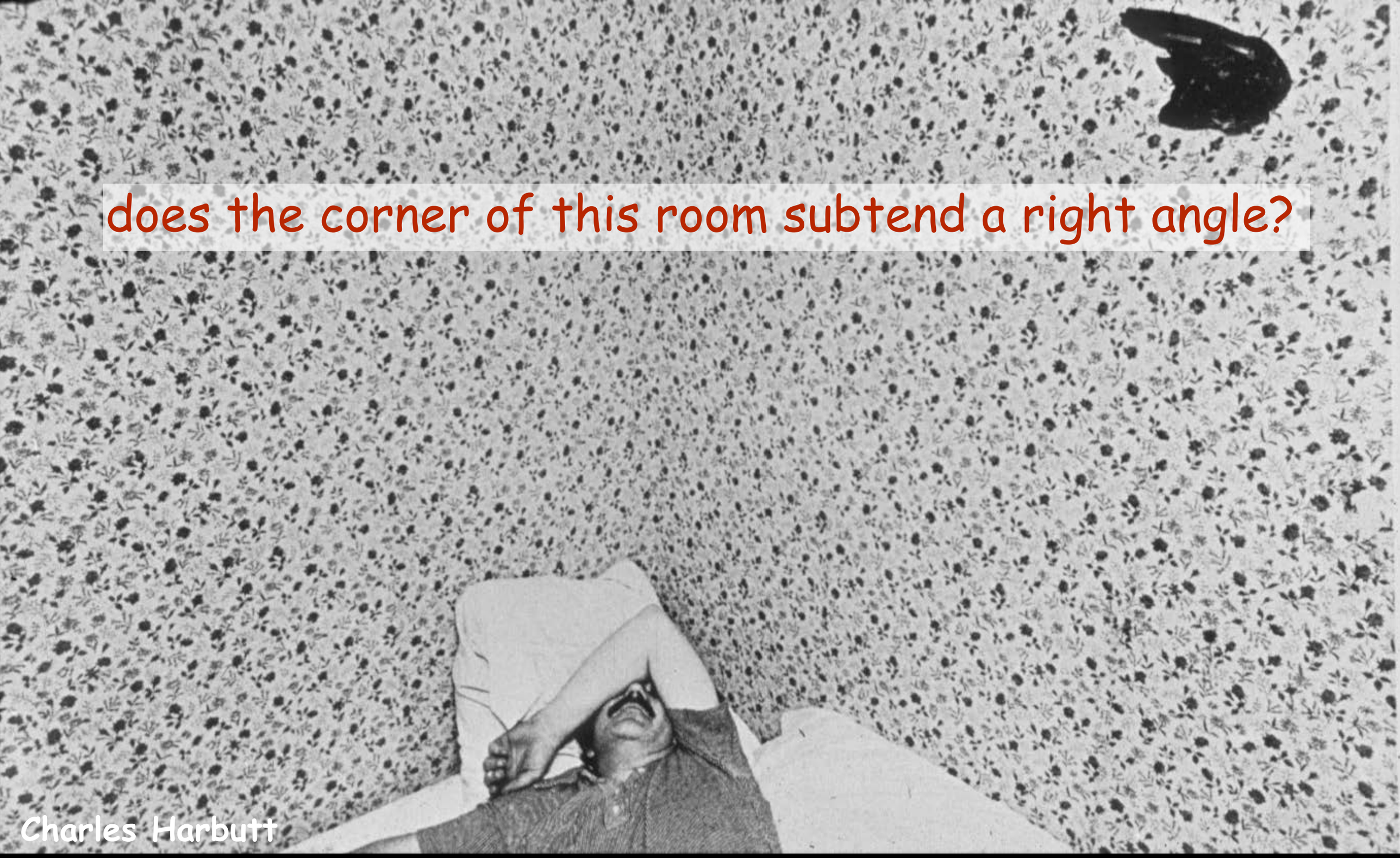
rotation
in depth



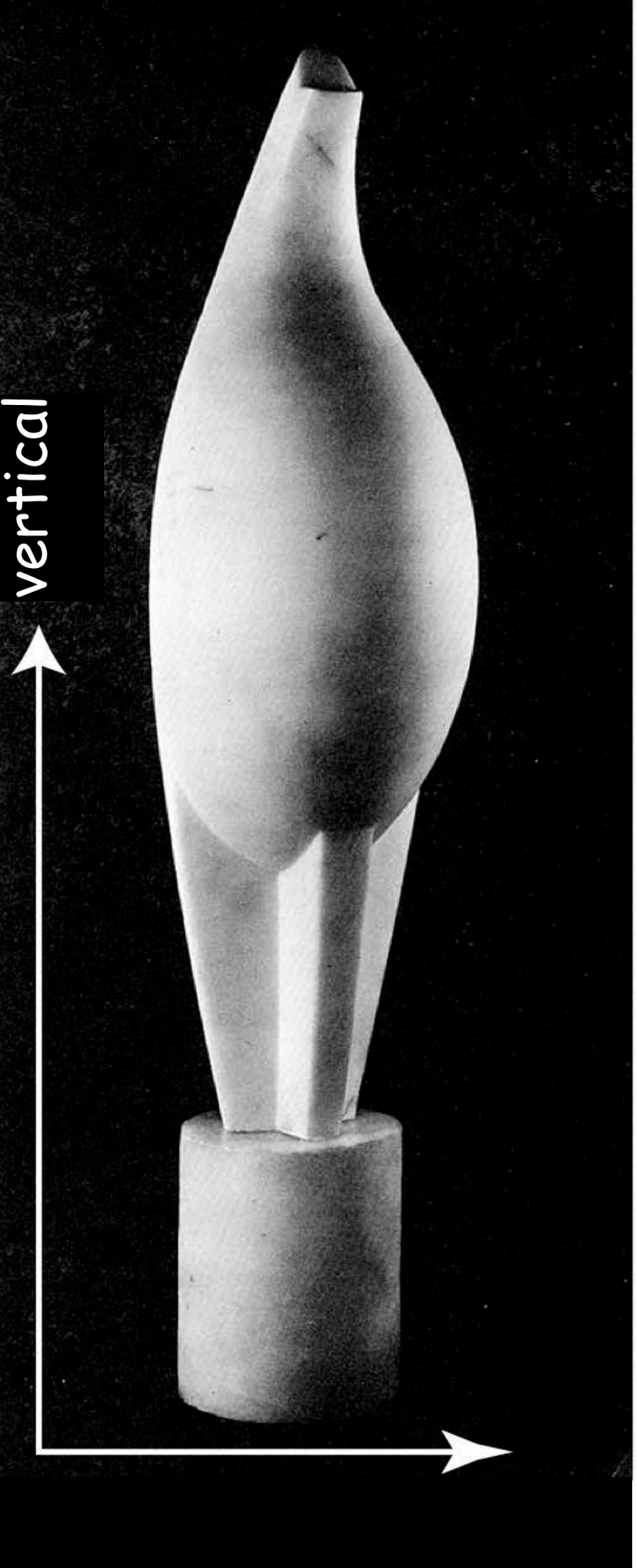
scaling
of depth

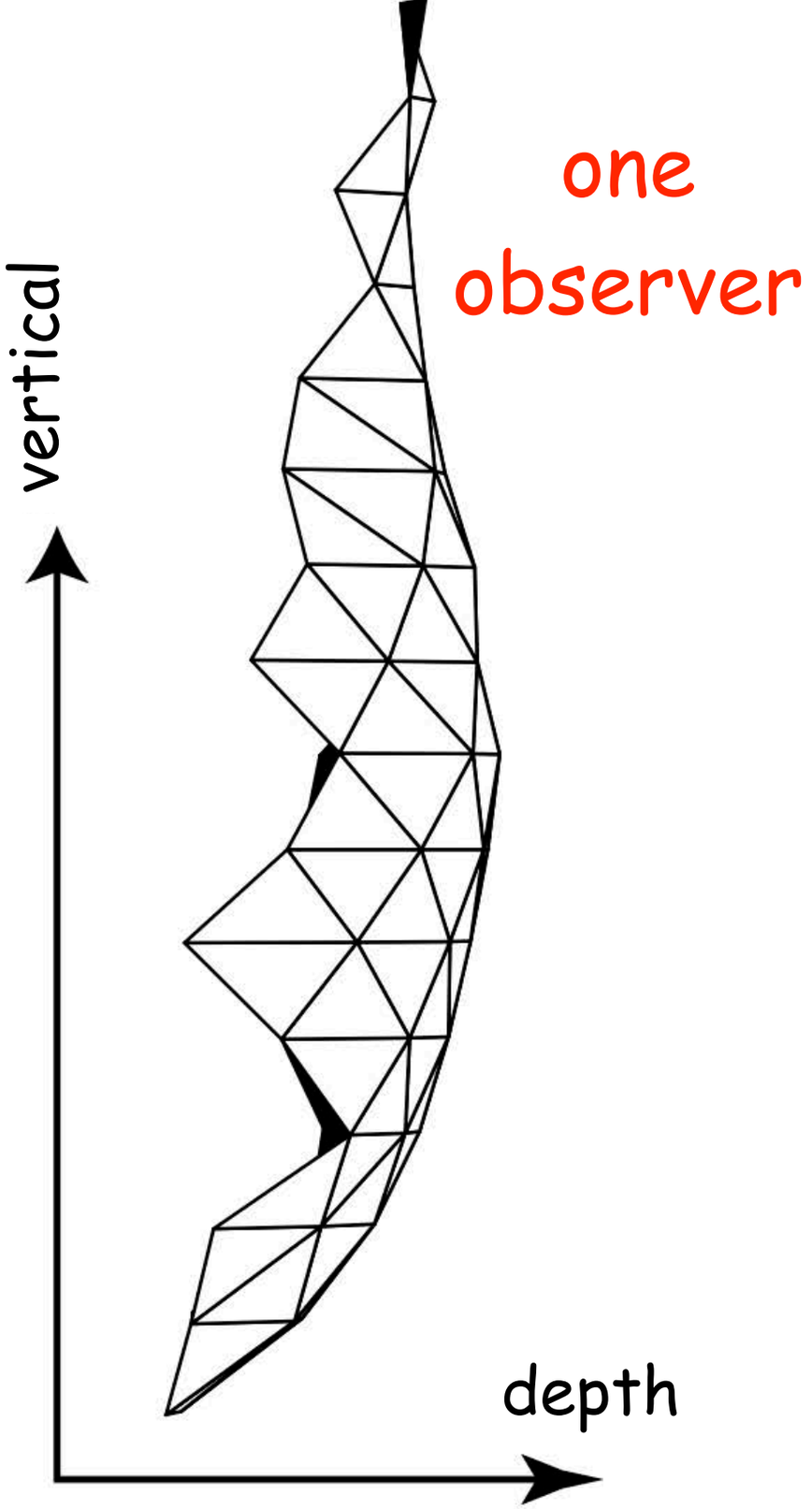
"mental movements" are part of the Beholder's Share

does the corner of this room subtend a right angle?

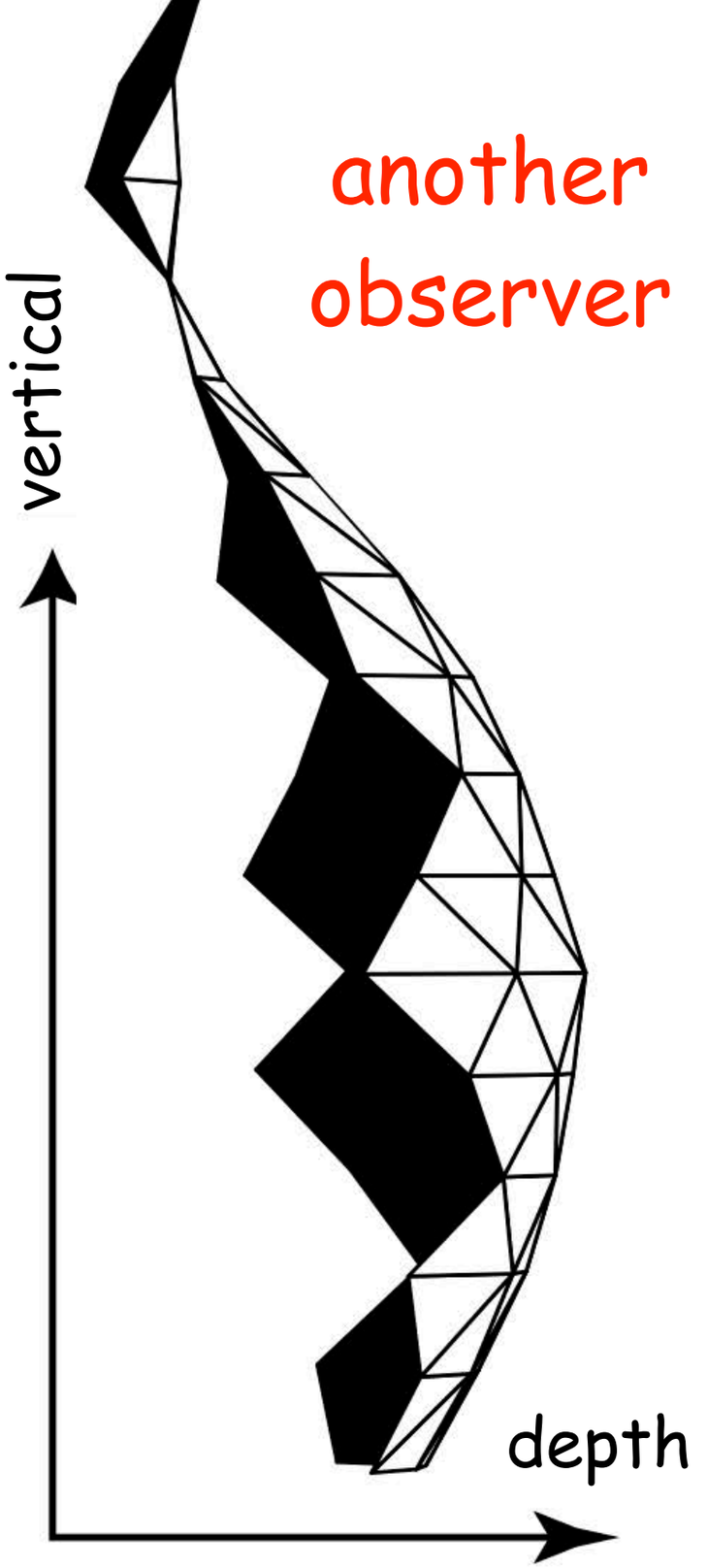


there are infinite “solutions” to any picture
a “beholder’s share” is a necessity!





one observer



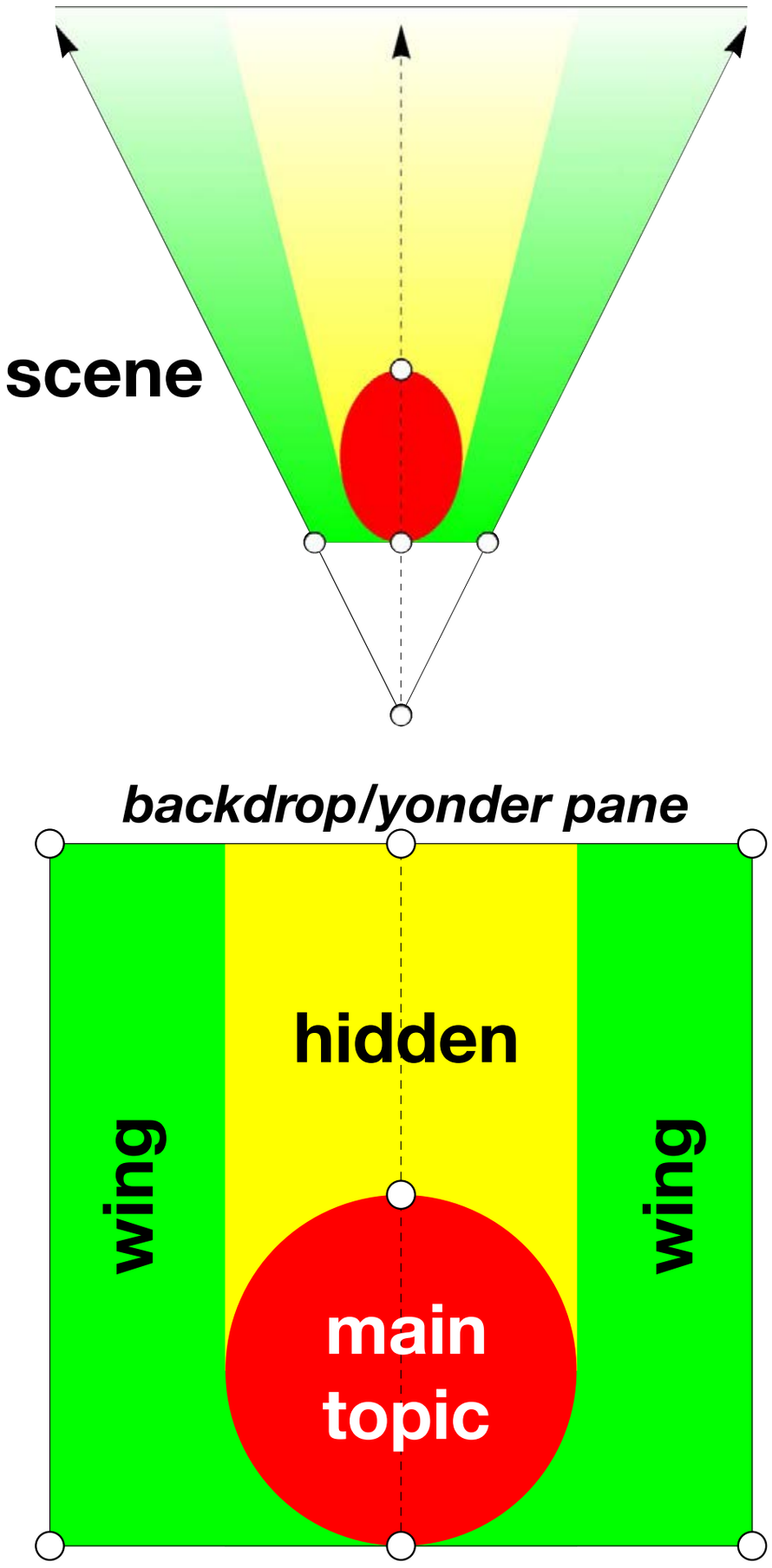
another observer

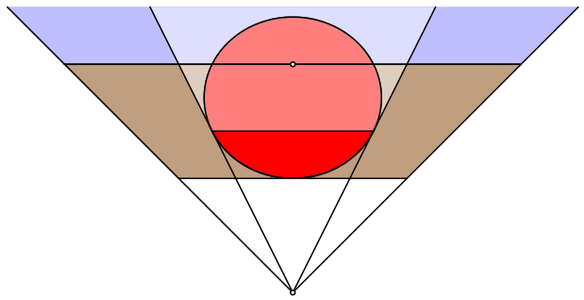
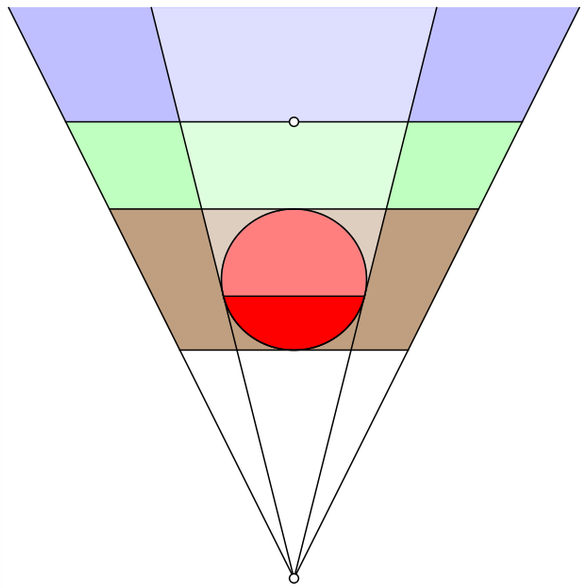
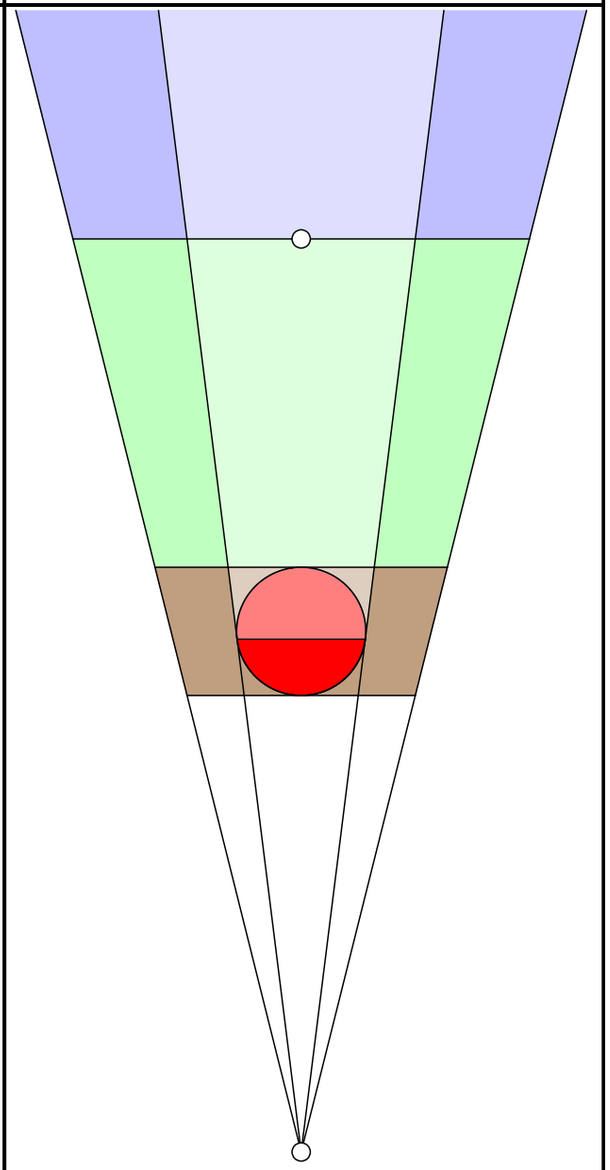
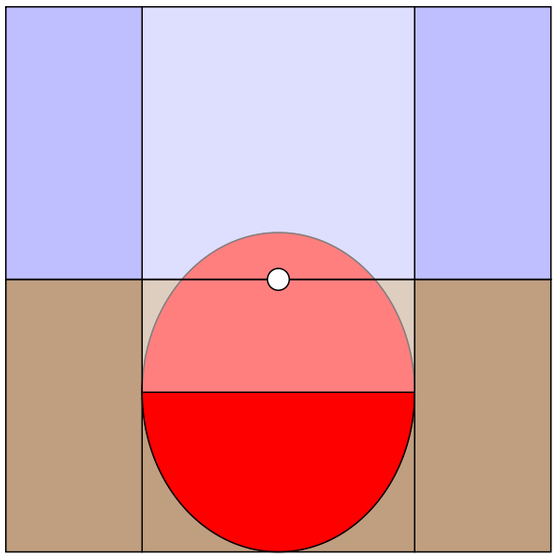
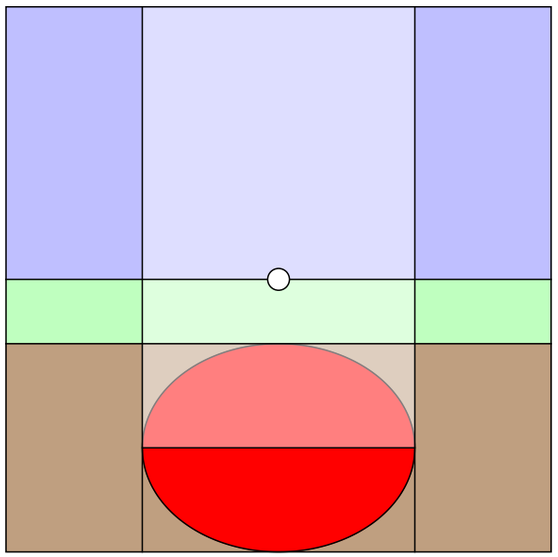
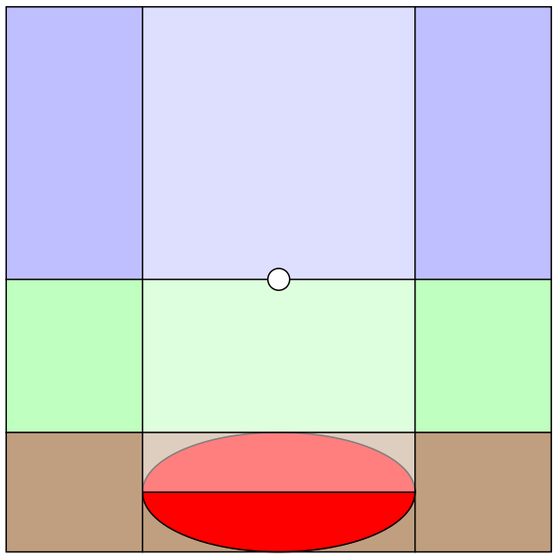
"mental movements" are a FACT,
at least in experimental phenomenology

THE "NORMAL" VIEW

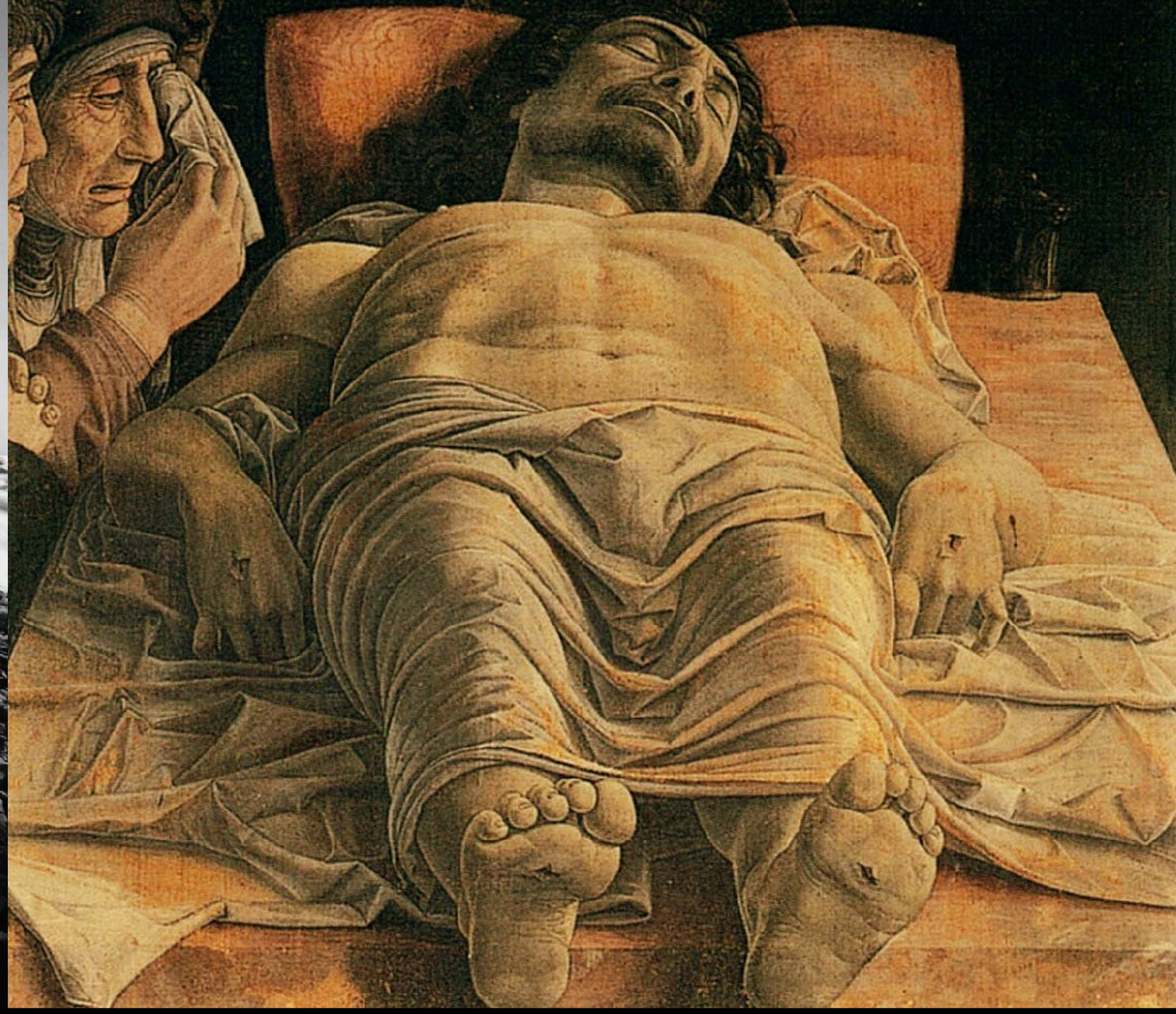
ambiguities of optics force psychogenesis
to add a Beholder's Share

pictorial vision is necessarily idiosyncratic
because optical "data" is "incomplete"


scene
backdrop/yonder pane
hidden
wing
wing
main
topic
view port/hither pane

focal length $\frac{1}{2}$	focal length 1	focal length 2
		
		

Bill Brand's (1961)
Nude on the Beach
extends far into the
background



Mantegna's Dead Christ
(ca,1480) is just a shallow
foreground

"abnormal" views cause "deformations"

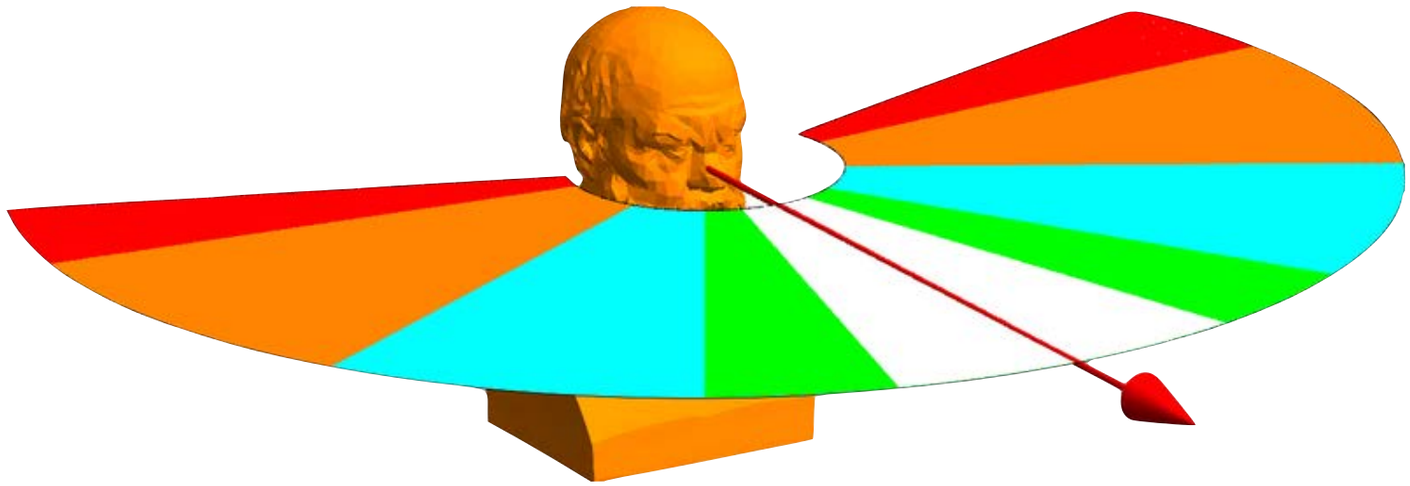
field of view ca 50° ("normal," no deformations)

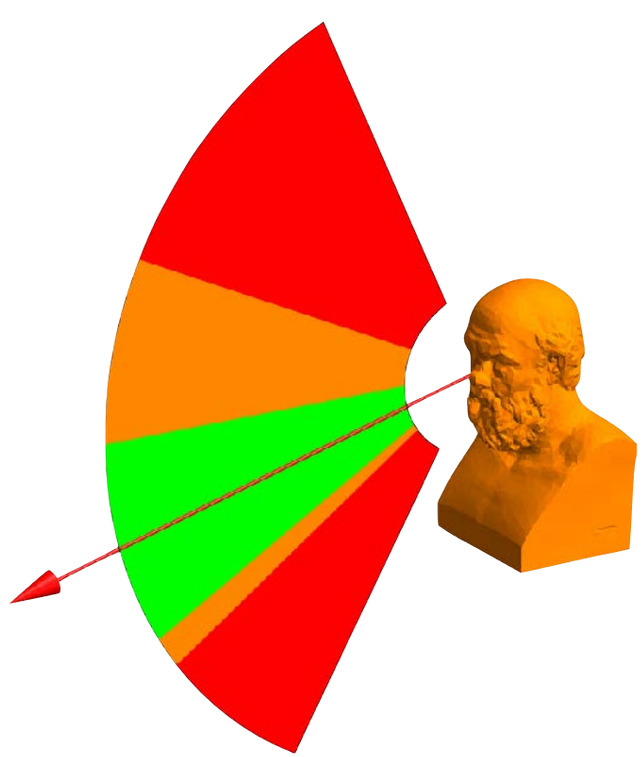
Gerrit van Honthorst

field of view ca 20° (space “flattened”)

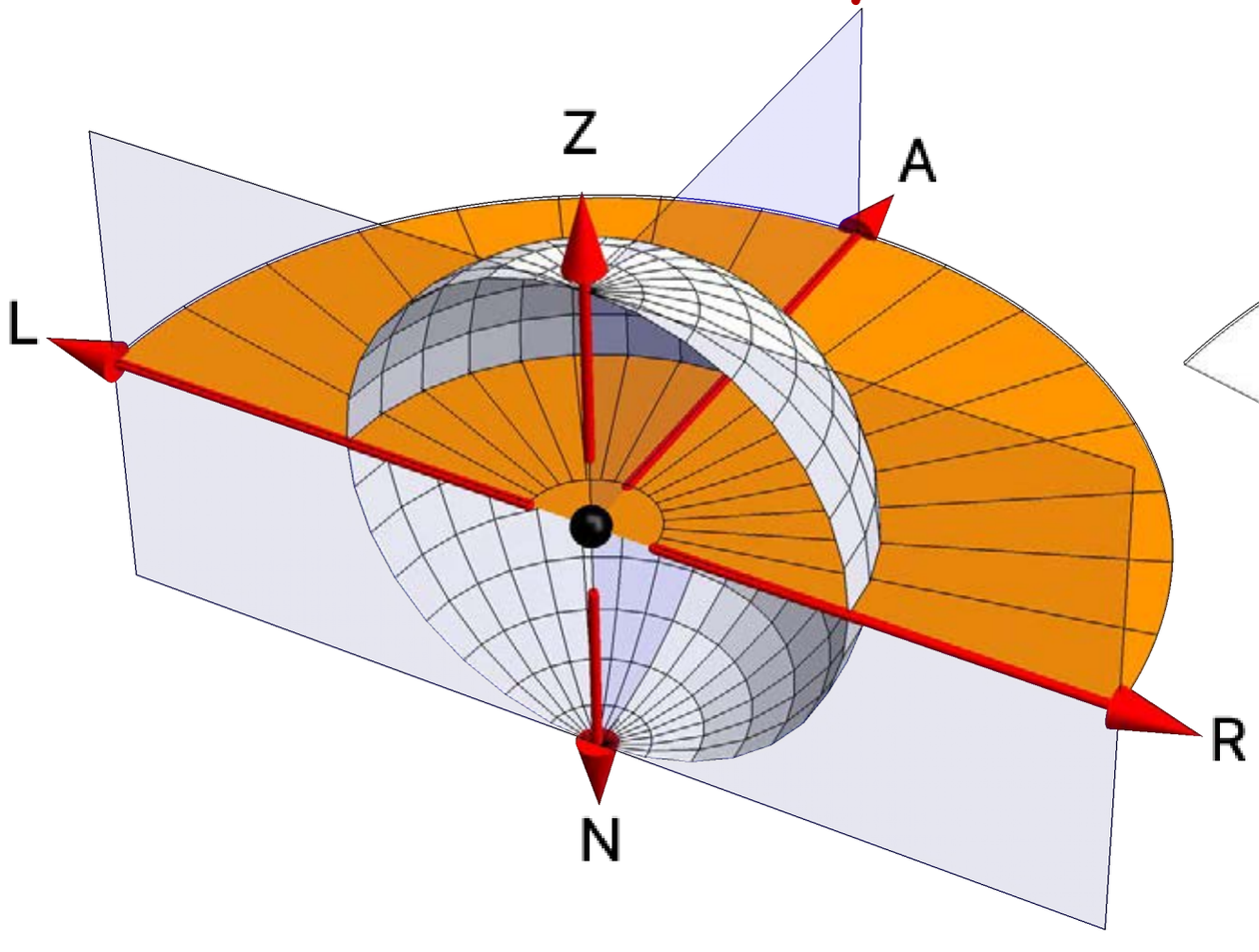
a remarkable 180° field of view (space "expanded")

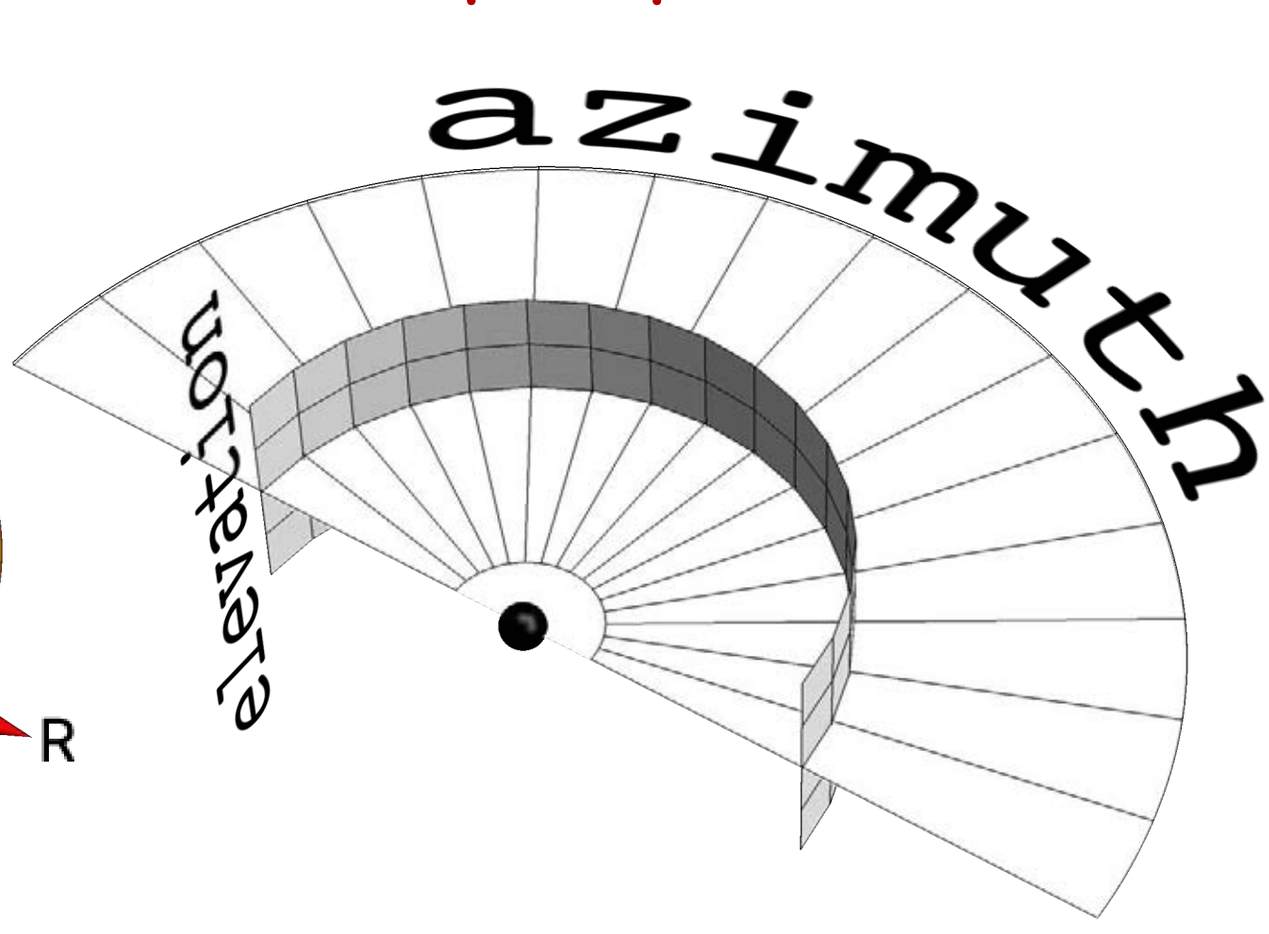
it is in Hauck's projection ("Plattkarte," equirectangular)





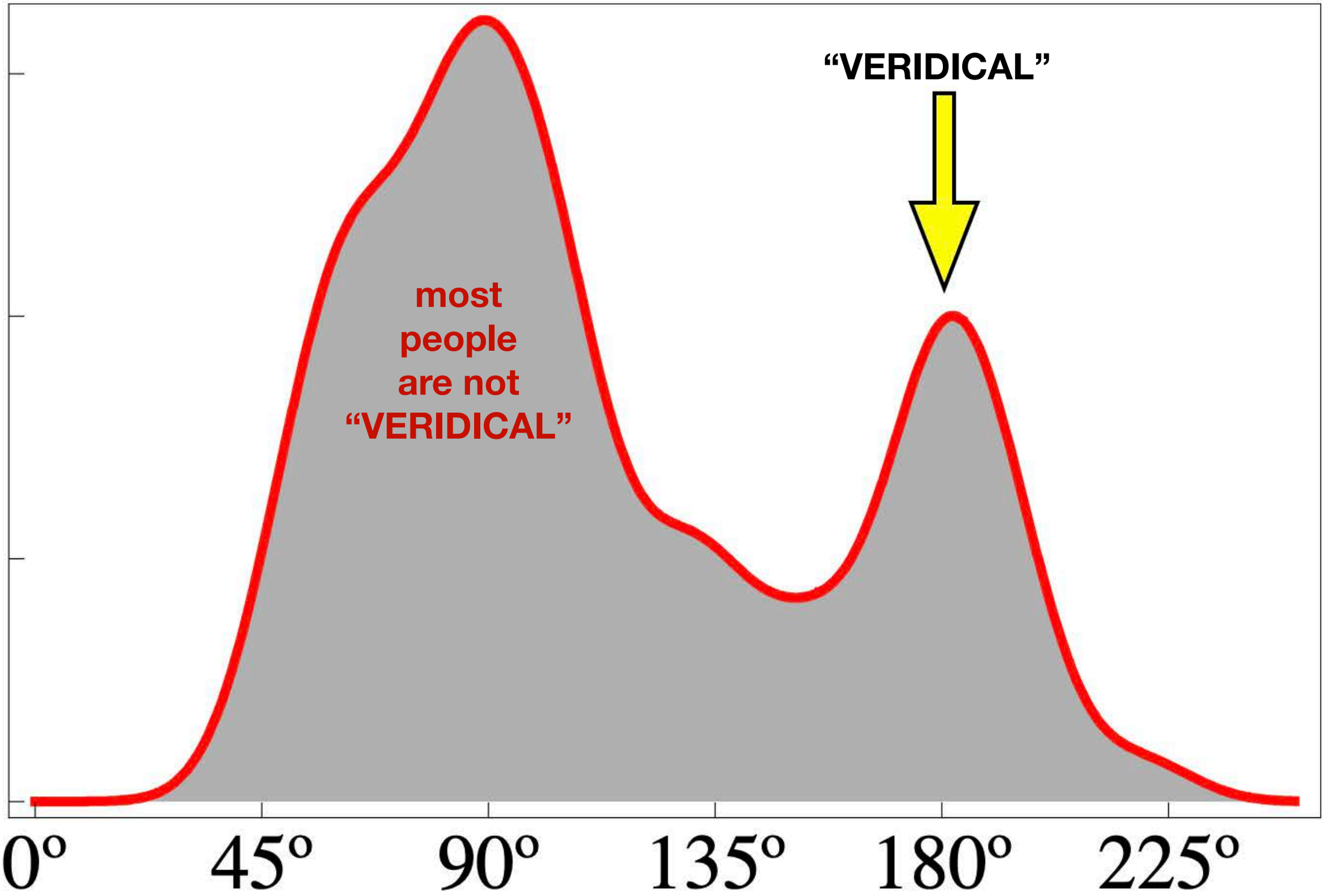
the extent of the human field of view is far to large to be covered by the conventional perspective

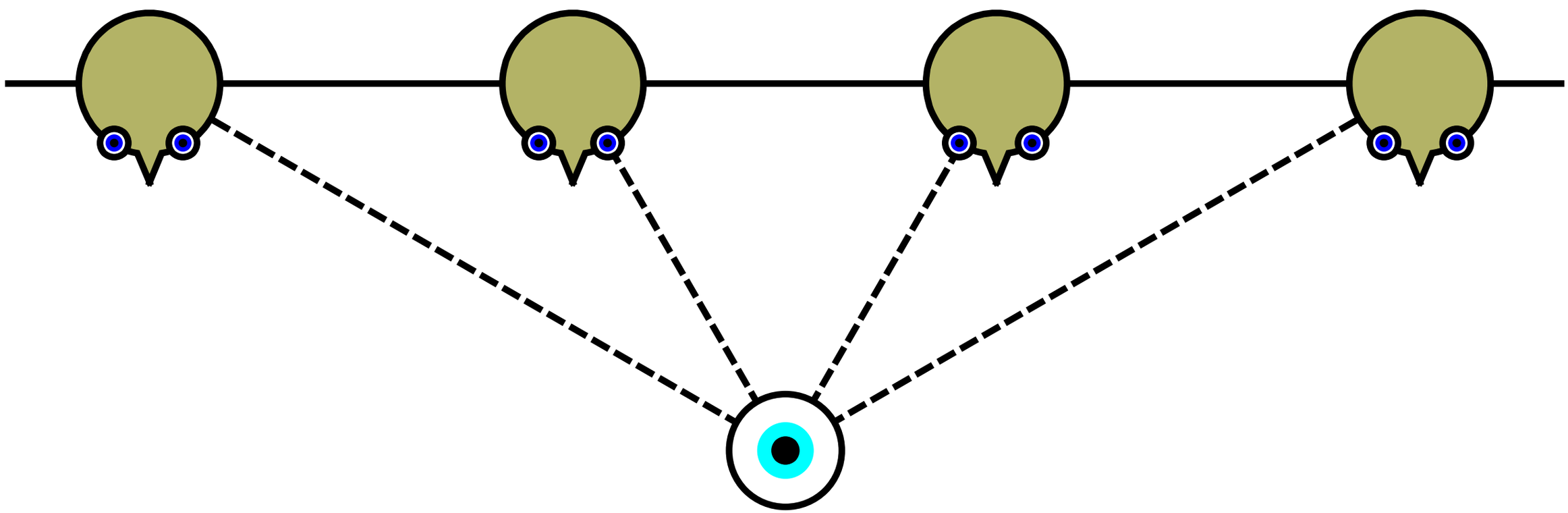




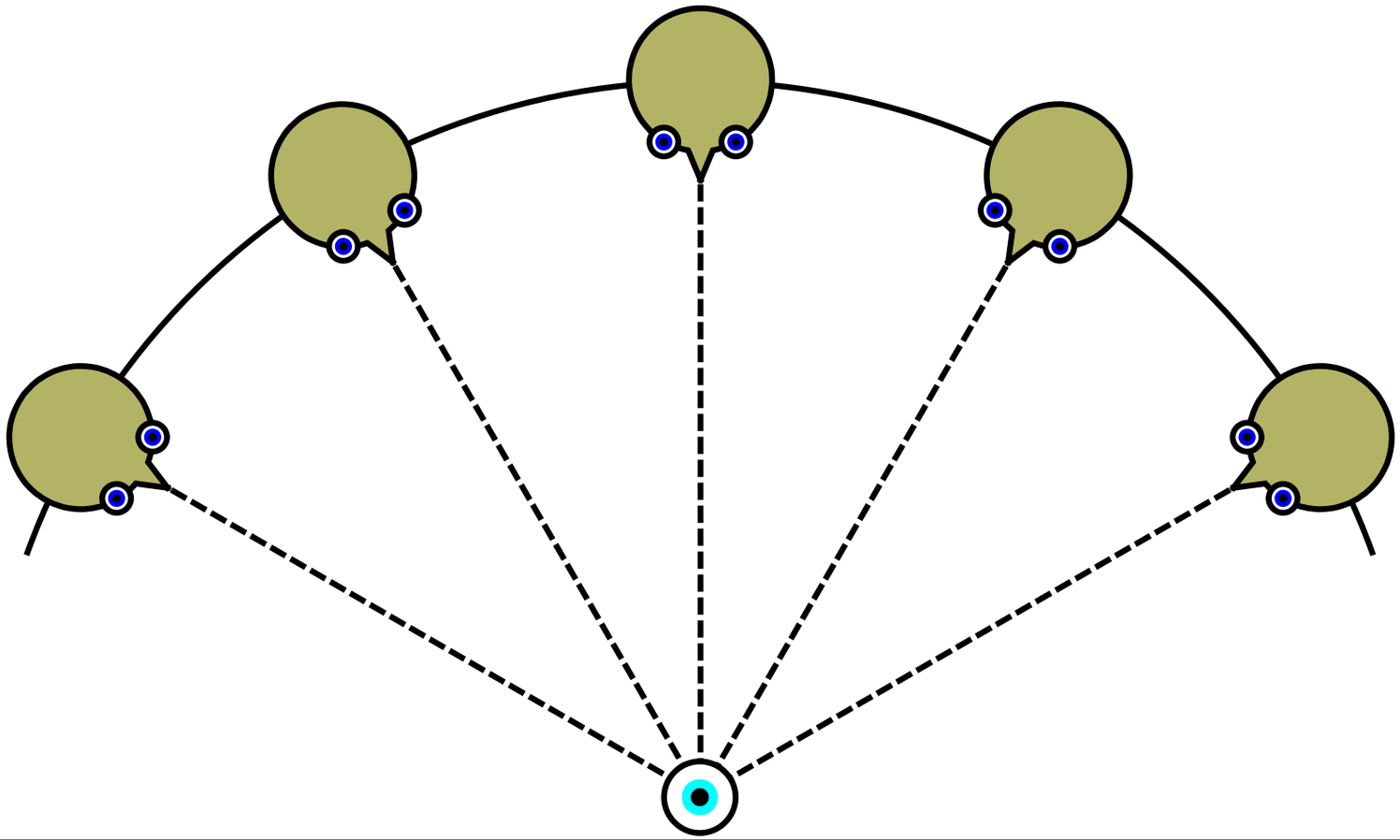
some people see "everything in front of them"

others feel the visual field "extends beyond their ears"

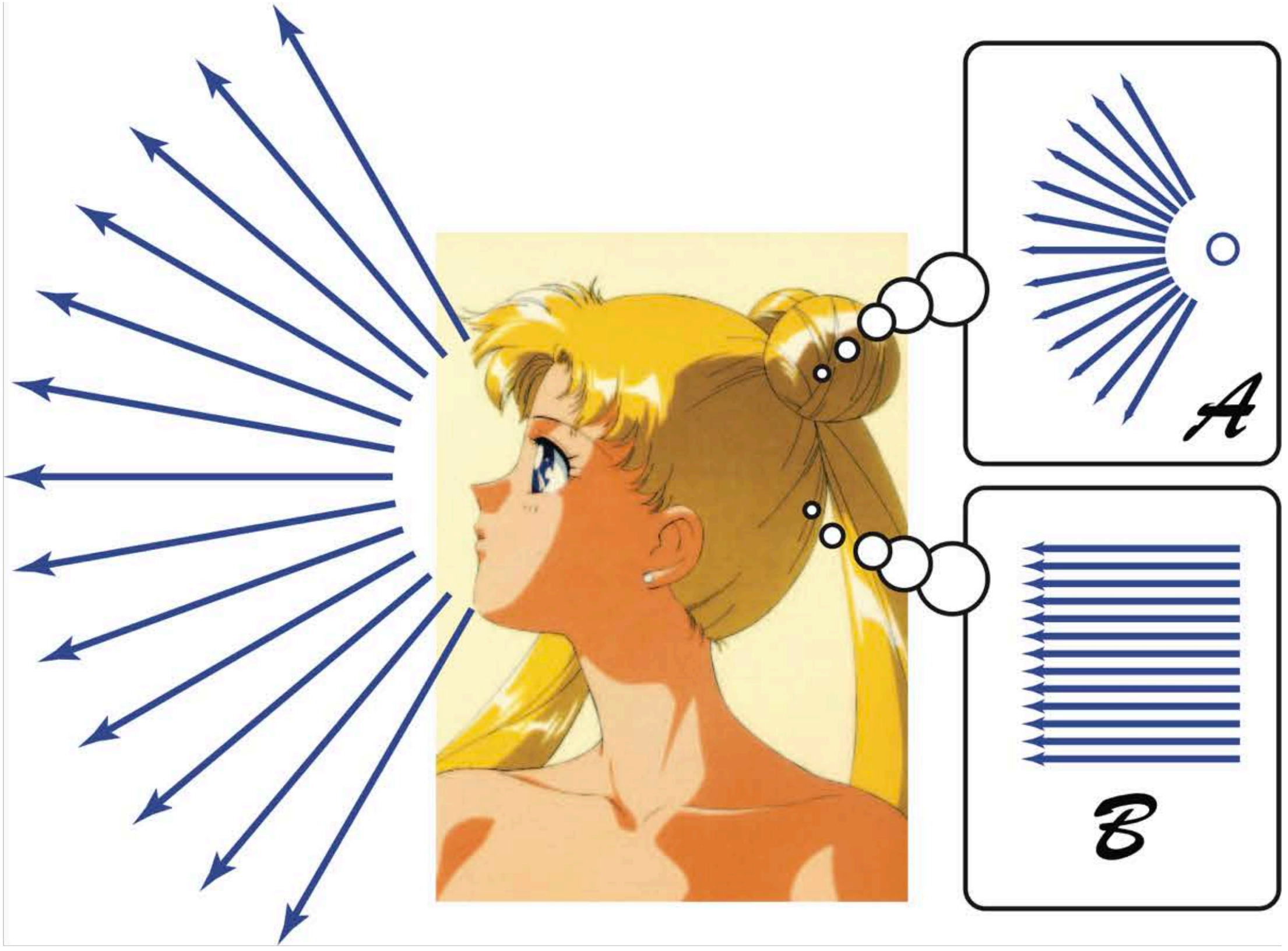




the perfect military order is not SEEN that way!



facing the camera in circular arrangement does better!



visual psychogenesis works with model B, all the time

picture width

picture plane

viewing distance

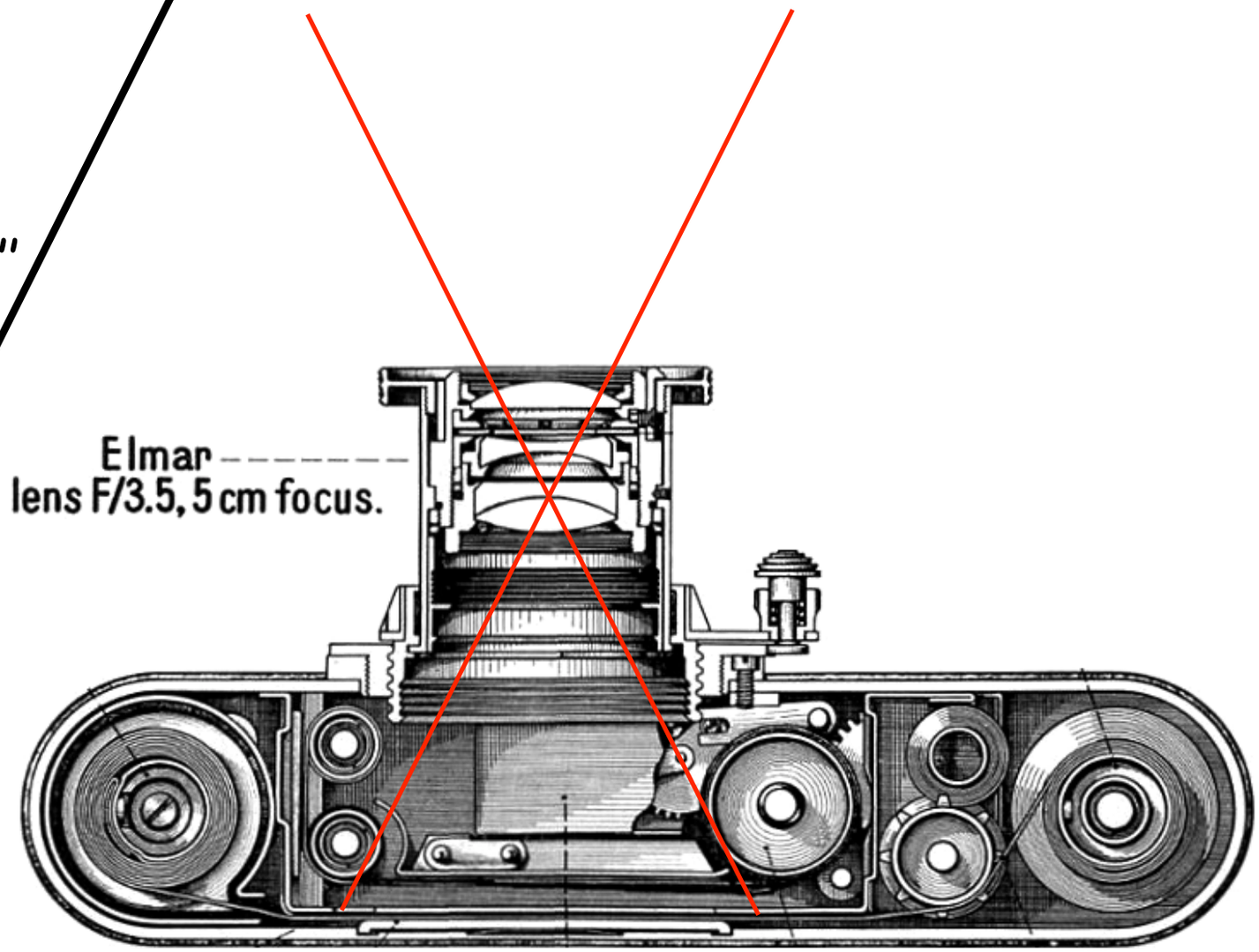
53°7'48"

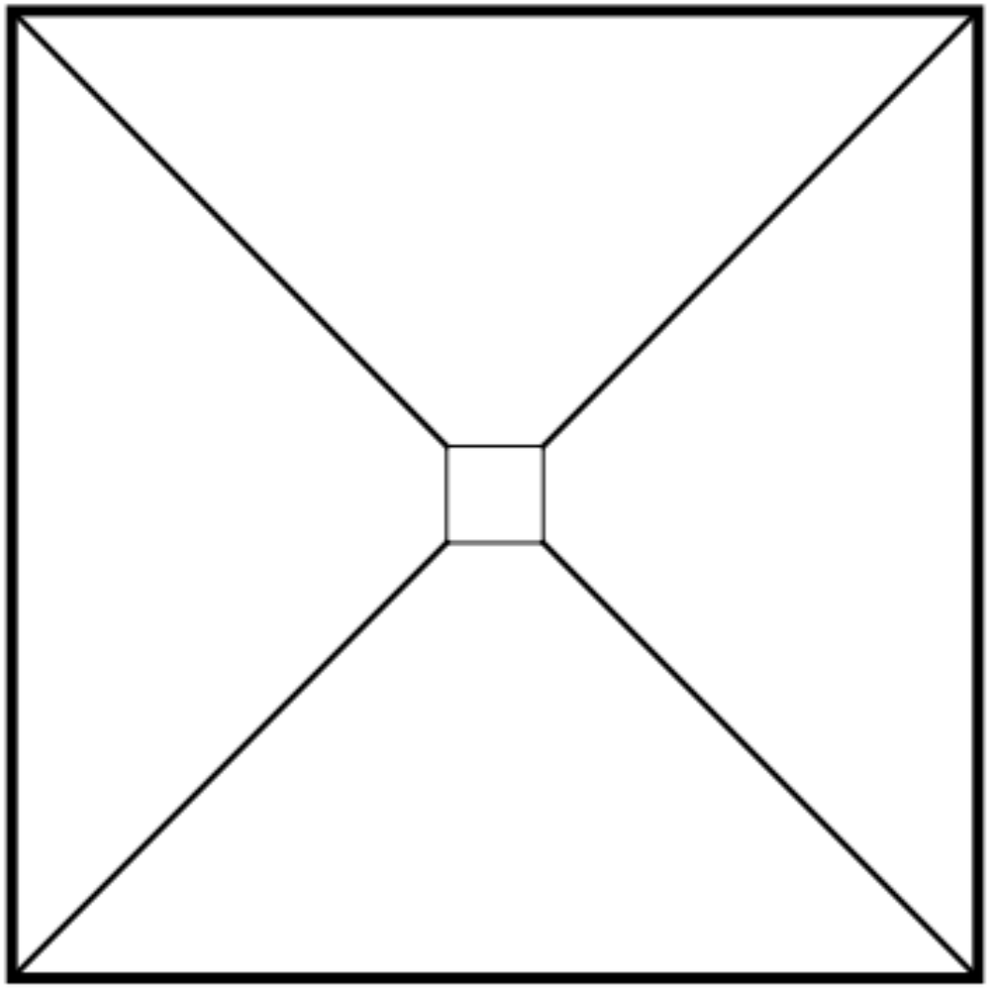
eye

35-50mm lens
on
"full frame"

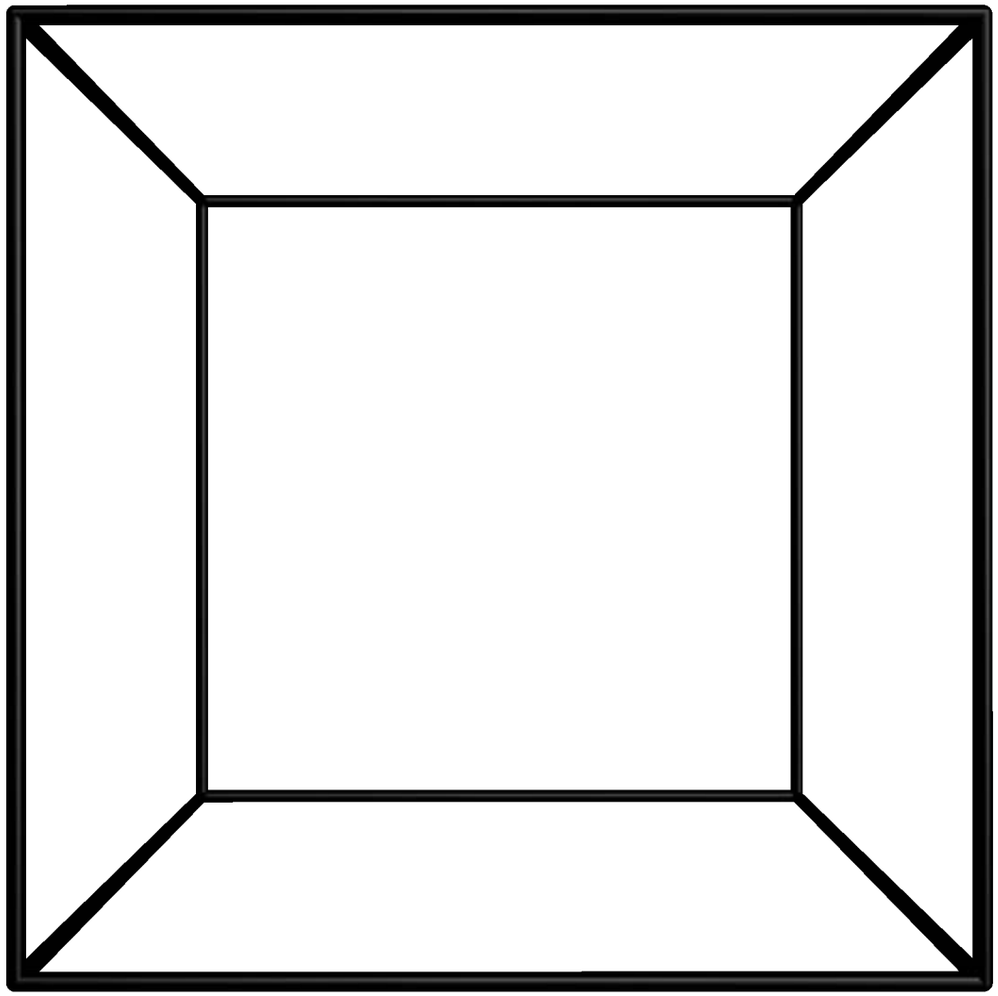
normal view:

picture width
≈
viewing distance





some perspectives of a cube
look like a long corridor,
others like a shallow slab

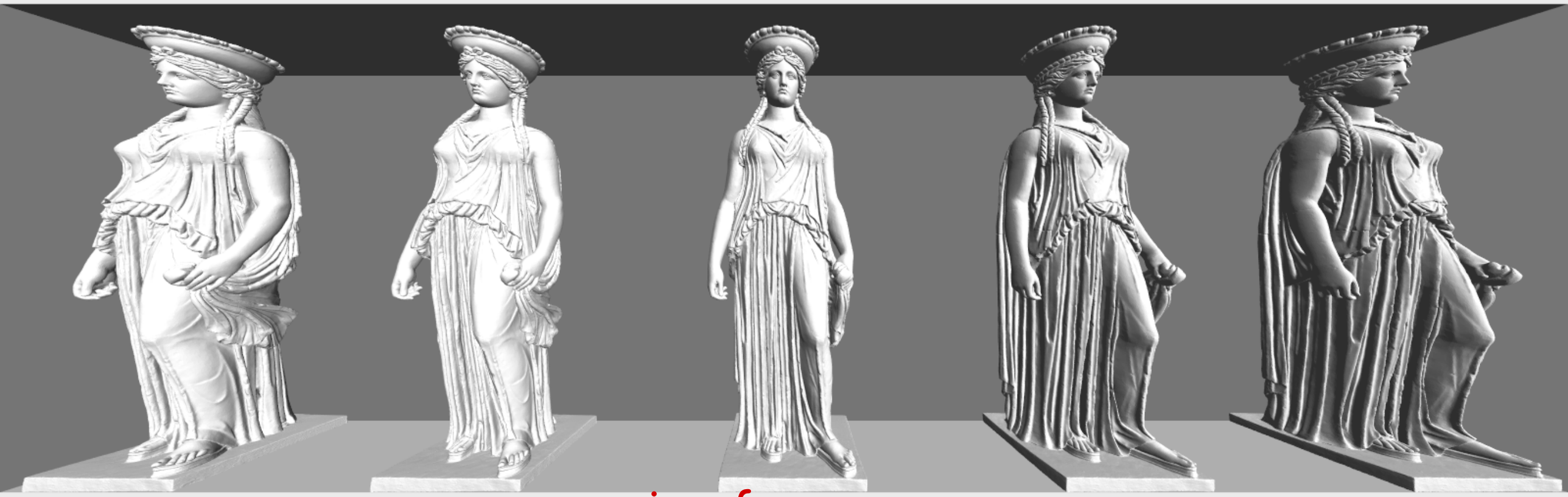


the "good" perspective
of a cube looks like this

there appears to be such a thing as a normal view

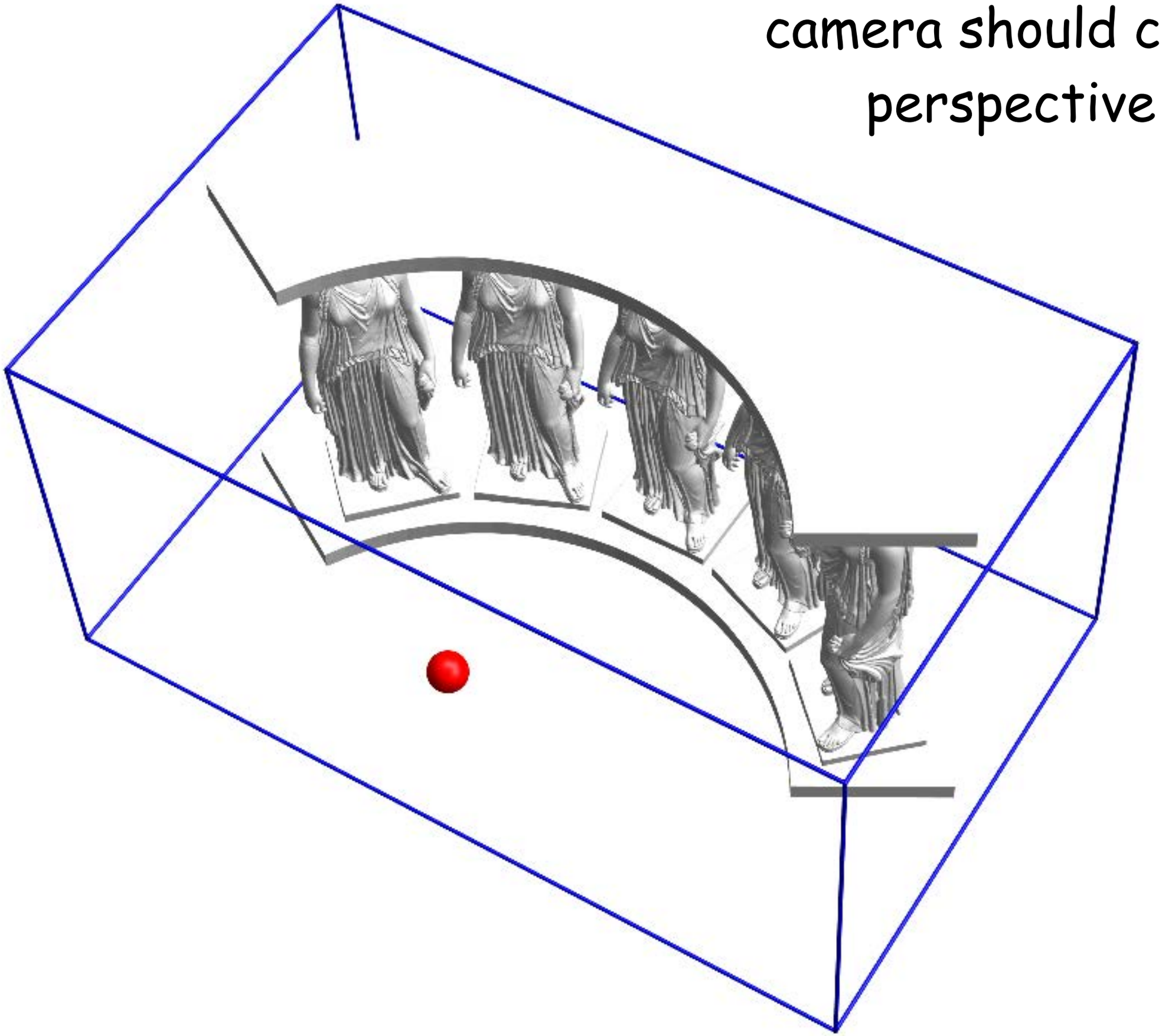
sentience simply ignores "proper" perspective

view from infinity



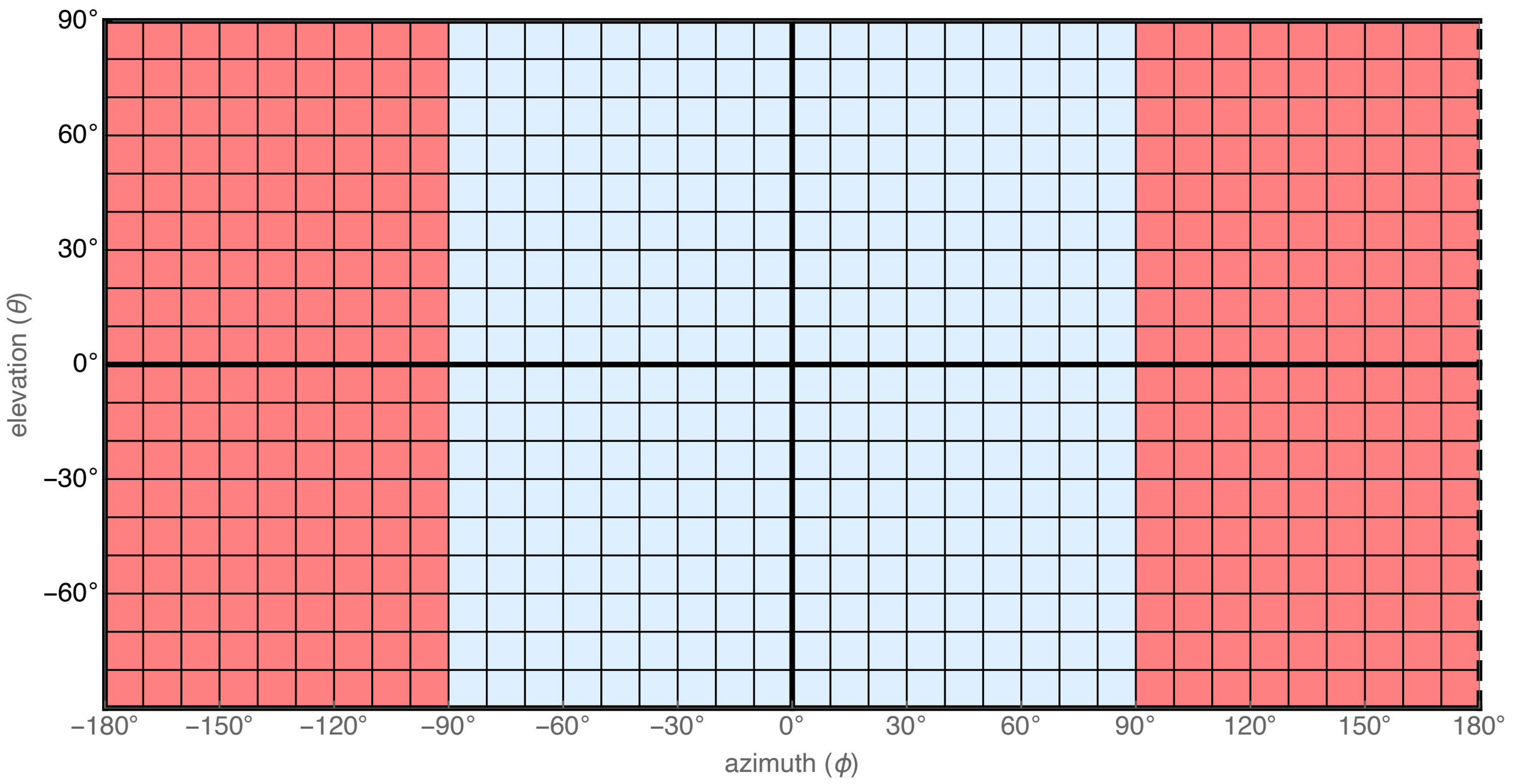
view from near

having all figures face the camera should cure the pesky perspective rotations



it takes care of the
rotation but …

perspective "deformations"
make it look objectionable



Guido Hauck recommended the Plattkarte (so called equi-rectangular map) as more pleasant then linear perspective, at least for "Naturmenschen" such as artists, children and women (this was the 1880's)

as a boon it may map the full (360°) horizon whereas perspective is limited to (much!) less than a 180°

Guido Hauck's perspective saves the day, this looks good!
(but it is "wrong!")

a panoramic selfie of me in my living room

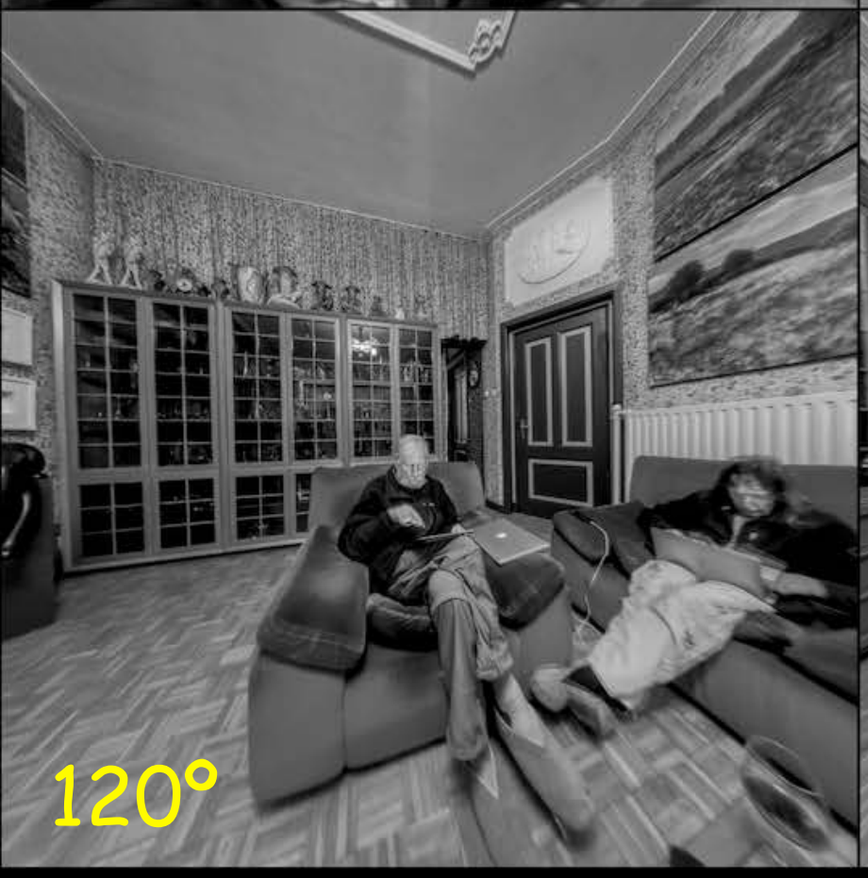
Hauck's plattkarte shows 360°x180° (left=right!)

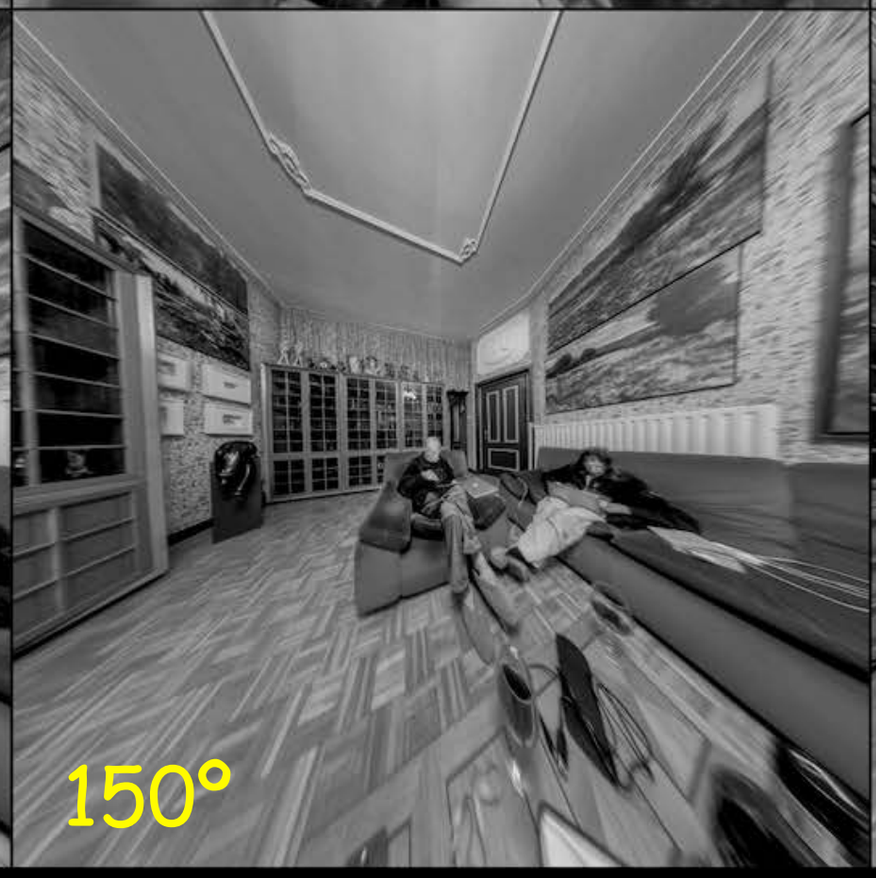
it all goes haywire if you tilt the camera

if deformations don't bother you there are lots of better (e.g., conformal) options

the Pierce quincuncial is conformal

much depends upon the principal viewing direction





but: essentially anything will beat linear perspective …

EFFECTIVE SPATIAL COMMUNICATION

Raphael

architecture & figures treated separately

the bench is in perspective, seen from near

each of the men is seen frontally, from far

space layers treated
in parallel projection

foreground

middleground

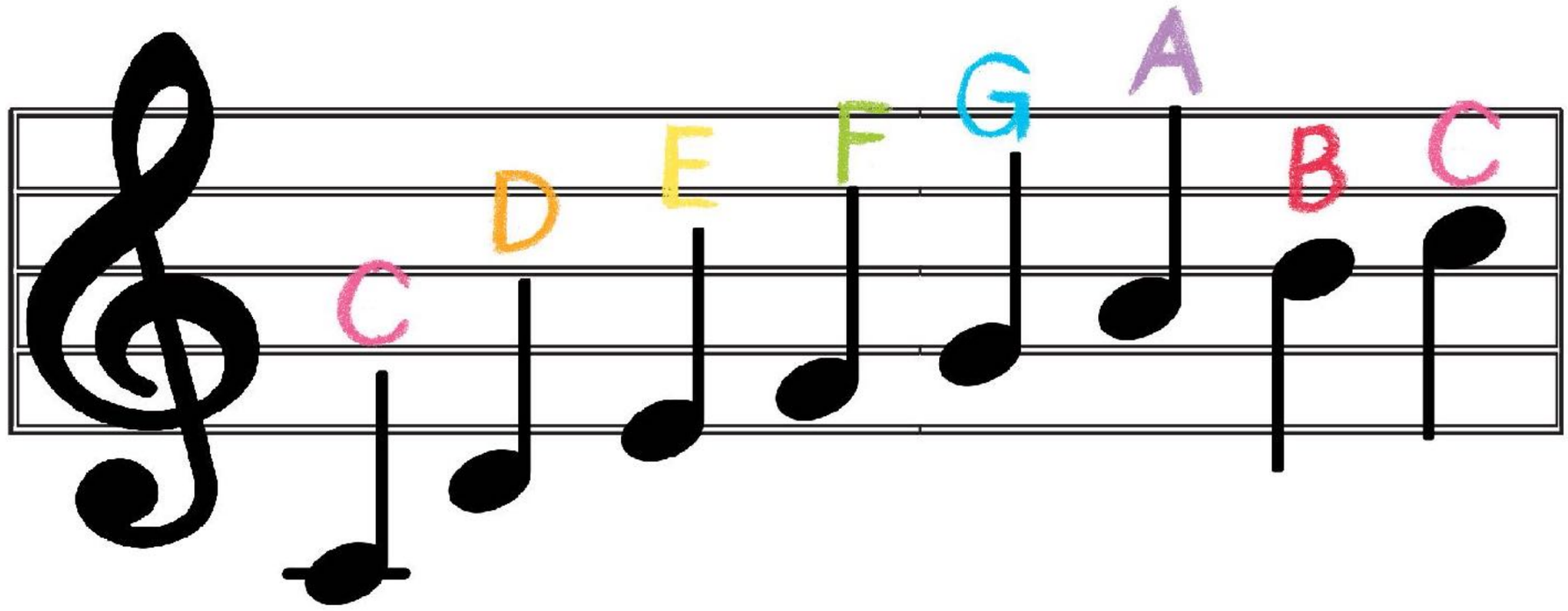
background

Paolo Veronese

2-5 depth layers (3 may be best, 7 is overkill) read well

it is like tones: beats ANYTIME!

it is much like music and applies to virtually all qualities like size, slope, tone, color, …, as also DEPTH



just 3(!) trellises or coulisses yield perfect spatial clarity

non-perspective, even dystopic renderings can be very effective

drawing from
the inside out
trades "depth"
for "plasticity"

what about the space behind the figure?

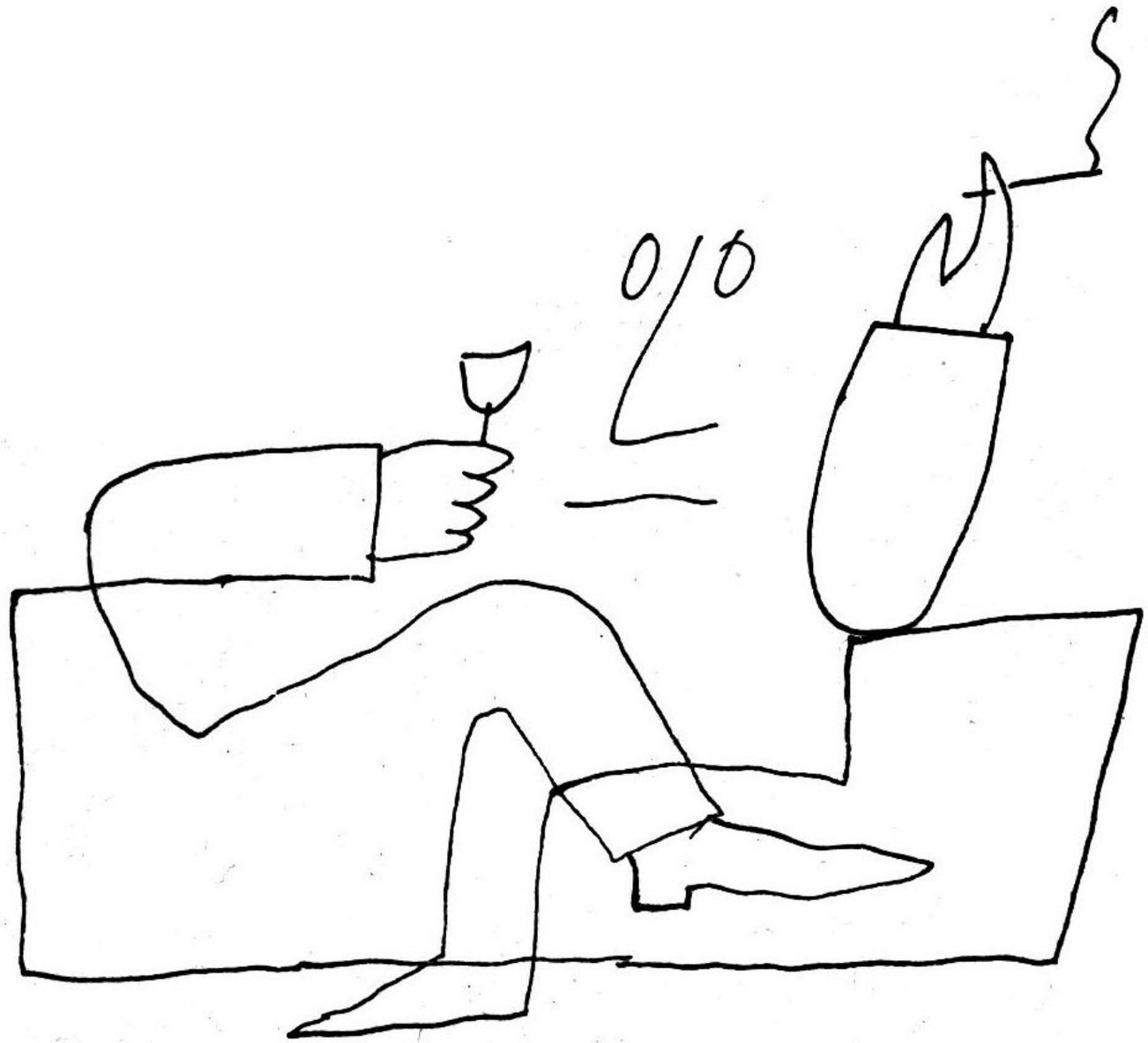
Poussin

Picasso

the lure of "dystopia"

thank you for your attention!

Peppa Pig
Neville Astley



Saul Steinberg

KoenderinkJan@gmail.com