

Stoic physiological and material theory of pneuma (spiritus, soul)  
**working in conjunction with a**  
Neoplatonic emanation of intelligences: Agent intellect being the most  
active in the sublunar realm.

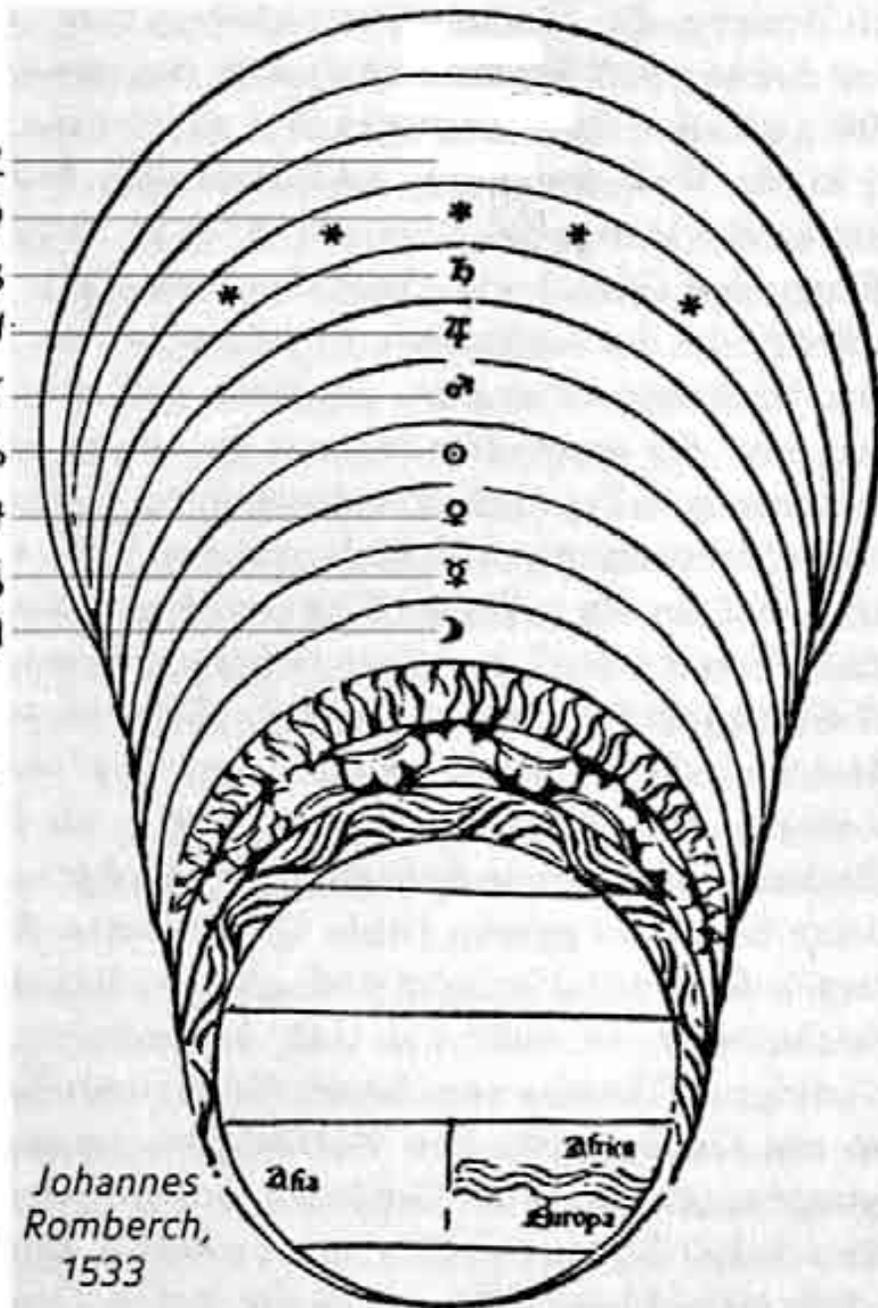
**grafted onto an**  
Aristotelian theory of matter: form + 'hyle' = substance  
**and an**

Aristotelian theory of mind: memory, analogy, fantasy, etc.

These 4 strains of natural philosophy are woven together into a coherent system that allowed for an immaterial God, free will, individuality of the soul after death, a finite material universe, infinite time (at least in one direction) and a harmony between philosophy and text (Koran or Bible). Very similar systems were developed by Thomas Aquinas, Albertus Magnus and other medieval Scholastics in the 13th and 14th centuries. Each has their own set of details, but the basic premises are quite similar to one another.

# The celestial body

- God thinks  
"let there be Me" 1
- Stars 2
  - Saturn 3
  - Jupiter 4
  - Mars 5
  - Sun 6
  - Venus 7
  - Mercury 8
  - Moon 9



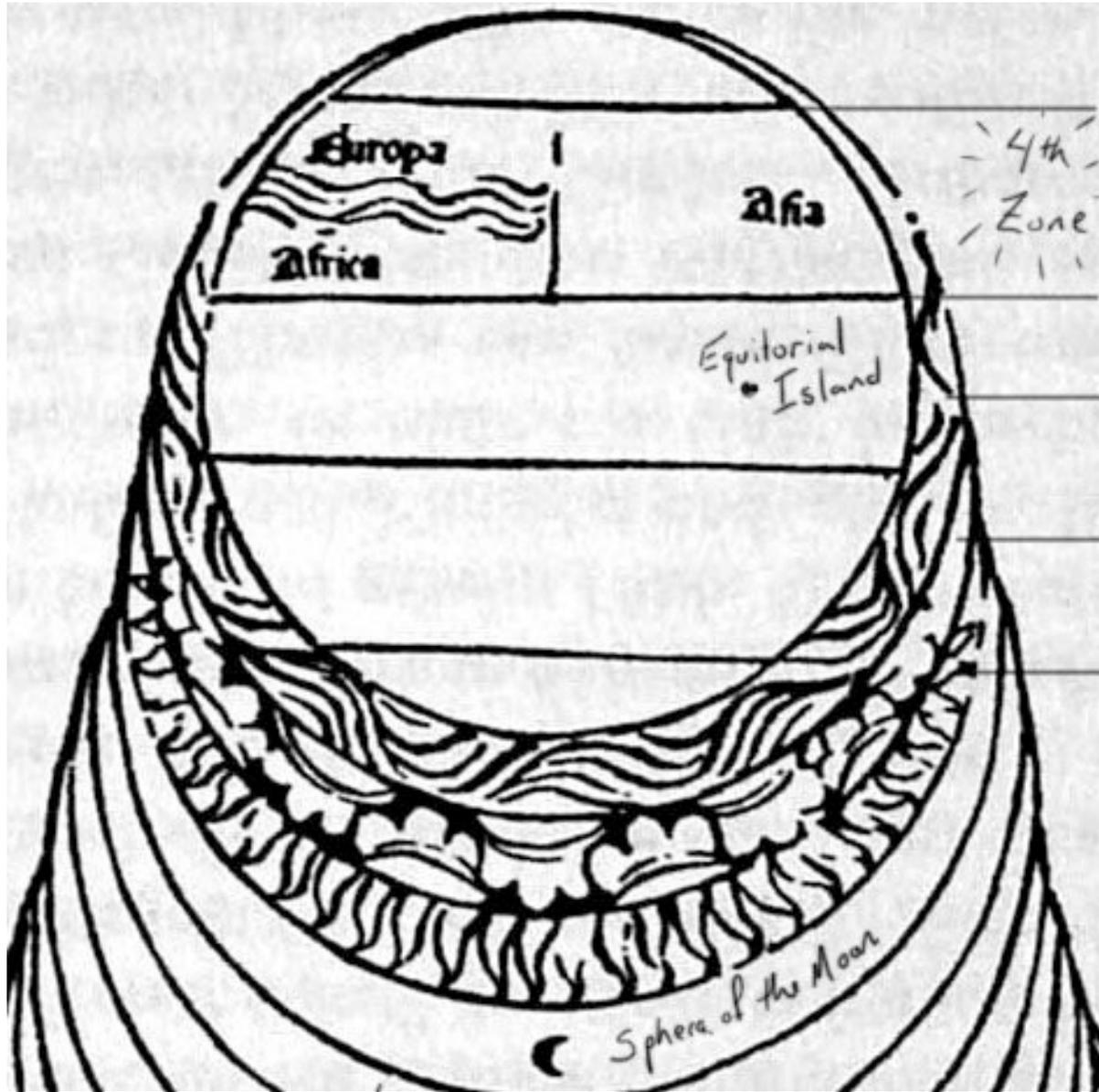
Johannes Romberch,  
1533

Alfarabi (ca. 870-950)  
and

Avicenna (980-1037)

Both proposed Neo-Platonic  
celestial emanation with  
10 spheres starting from  
the One, Good, God.

Note: Romberch has 2  
additional spheres in  
his system.



Water

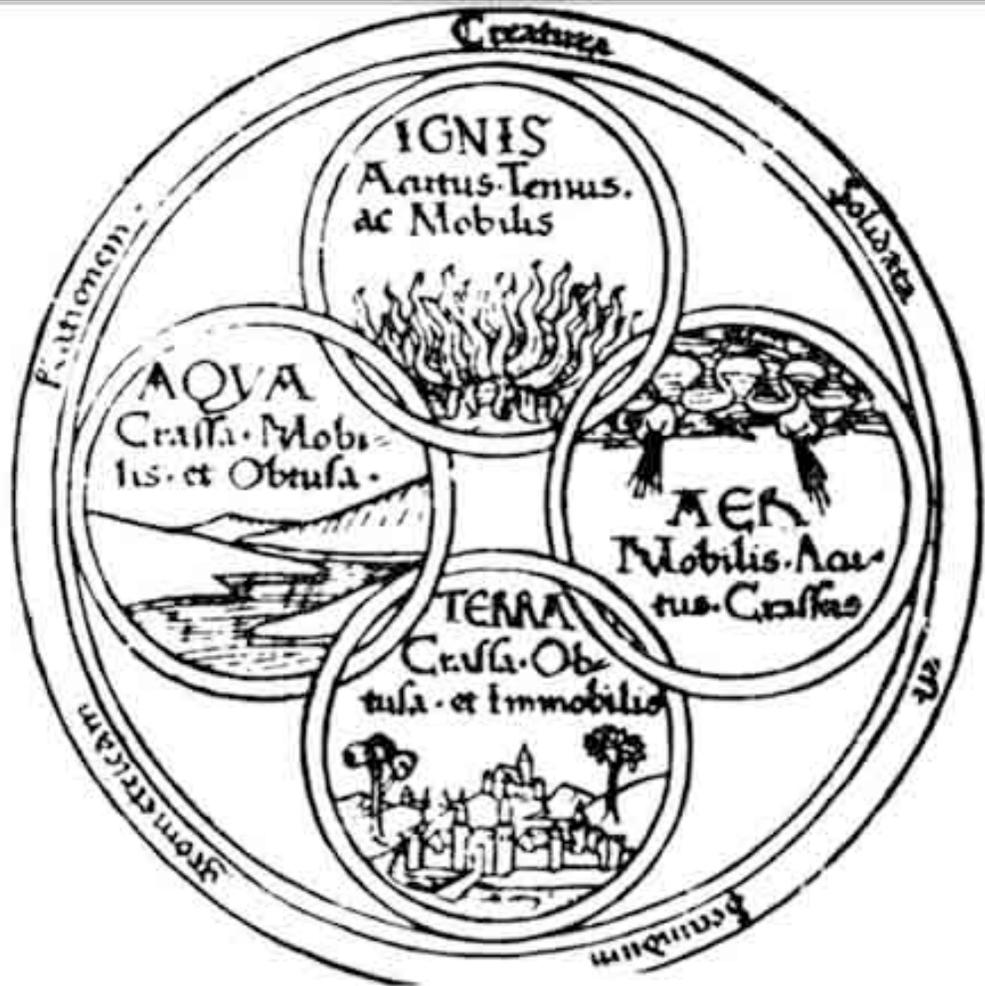
Air (clouds)

Fire

The Agent Intellect  
[The Giver of Forms]  
Rules the sub-lunar  
realm.

A Perfect Mud

The mud, primordial elemental matter, with a perfect equilibrium of hot-cold-wet-dry. The perfect equilibrium meaning that it is balanced perfectly between the contrary qualities and natural motions. Perfect, because, the human being, is the most perfect entity in the sublunar realm.



The four elements (Isidore of Seville, *De natura rerum*, 1472)

*"Creatura solidata est secundum geometricam rationem."*

*"A solid creation is in accordance with geometrical ratio."*

FIRE - sharp, subtle, active

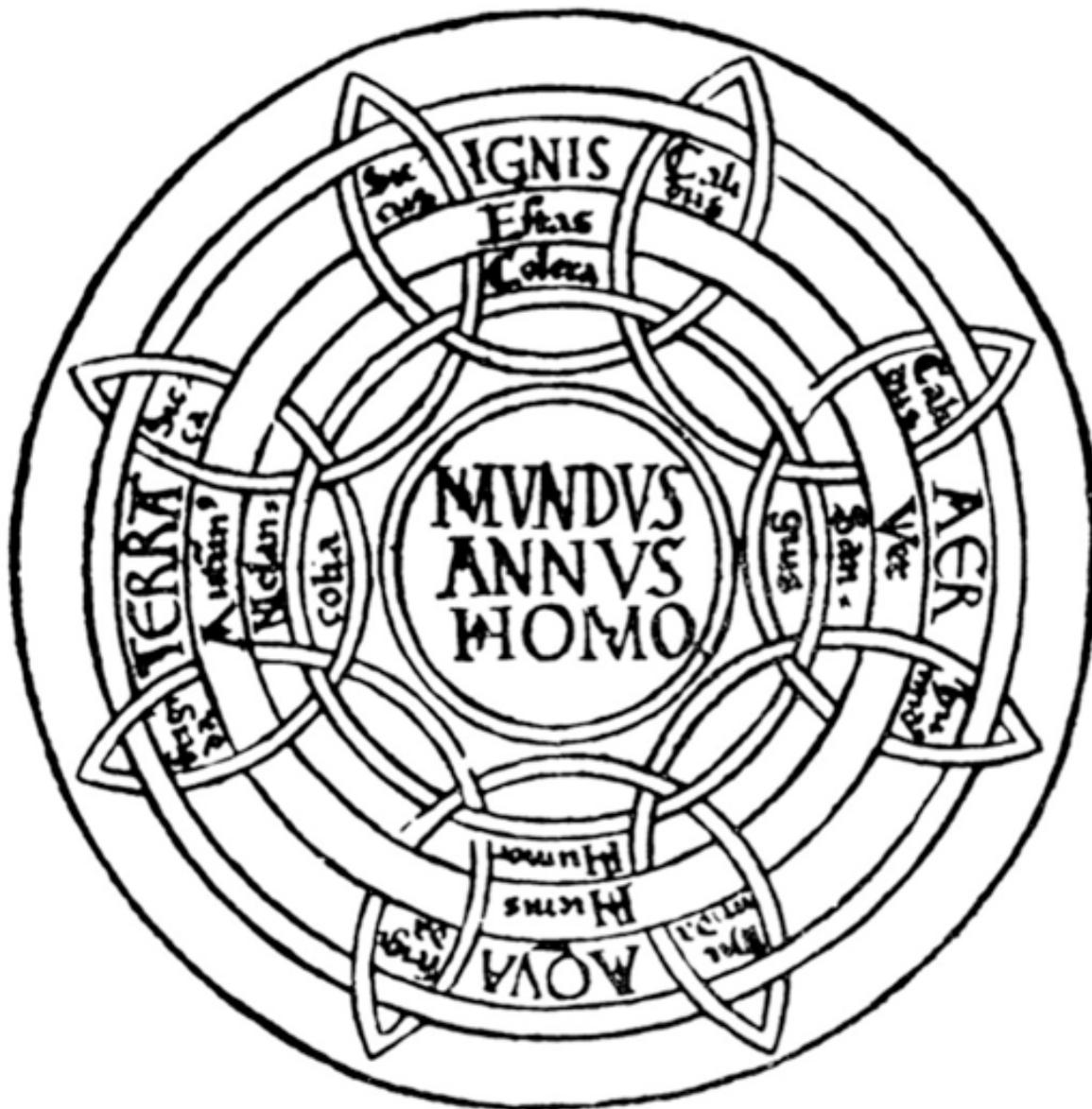
AIR- active, sharp, thick

WATER- thick, active, blunt

EARTH- thick, inactive, blunt

(discuss motions and quint.)

Isidore of Seville 560-636

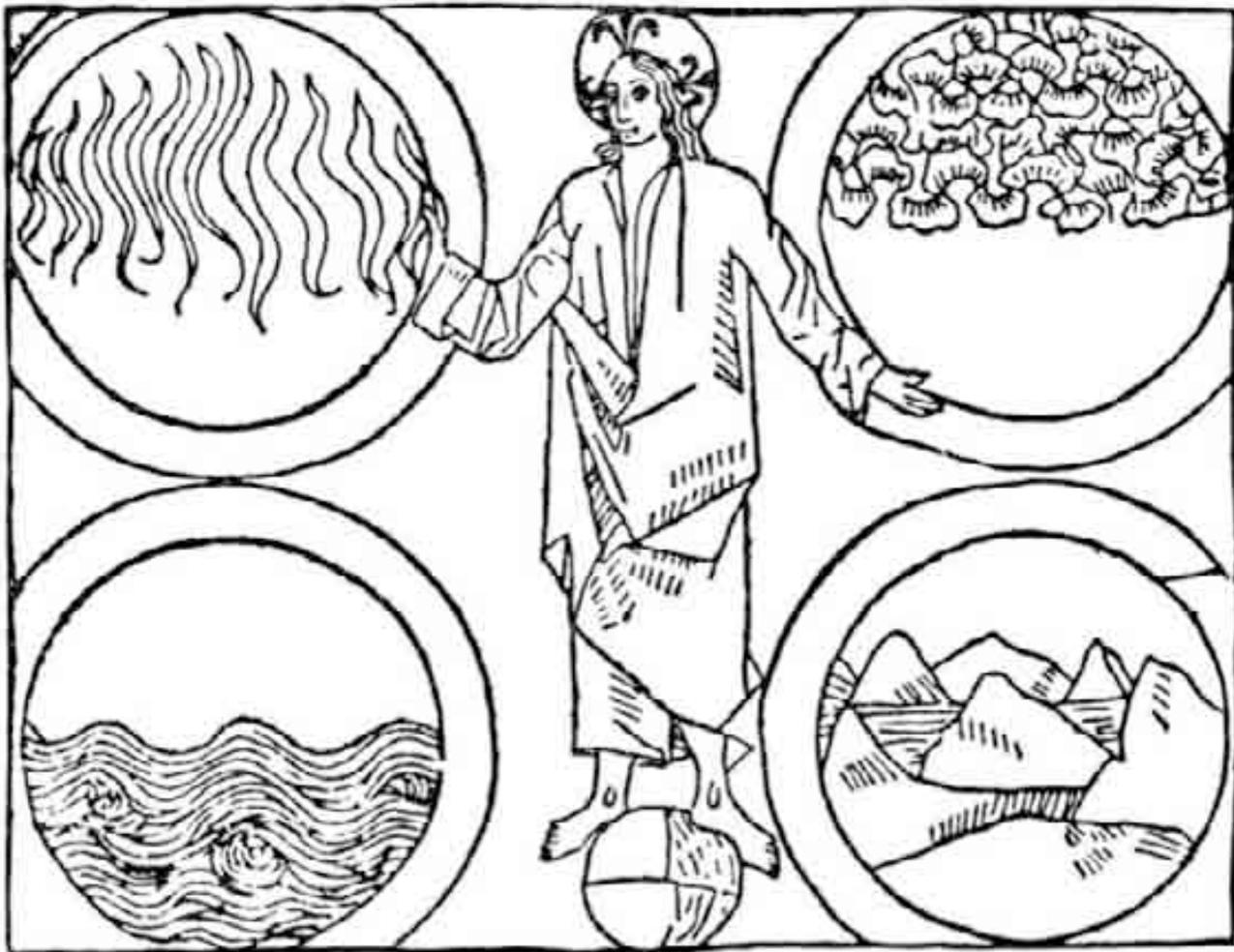


*“Mundus, Annus, Homo”*

The natural sciences (Isidore of Seville, *De natura rerum*, 1472)

Each element has its related qualities on either side and its corresponding season and humor below.

	fire	
	summer	
	choleric?	
Earth		Air
Autumn		Spring
?		?
	Water	
	Winter	
	Humor?	
Isidore of Seville 560-636		
World		
Age/Time		
Man		



7. Christ and the four elements  
(Bartholomaeus Anglicus, *De proprietatibus rerum*, 1482)

Jesus standing on a North-Up world.  
The clouds are interesting just as drawings.

Who you are depends on how the materials that you are made of were informed by pneuma/spiritus/cosmic-emanations at your conception. The Agent Intellect and the other Intellects (Planets) above inform your you-ness (you-esse).

This is often referred to generally as Hippocratic/Galenic *Complexio* or *Temperament* and was further developed by Avicenna in his medical theory which dominated medical theory into the 17th century.

Elements:

earth, water, air, fire

Elements exhibit qualities:

hot, cold, dry, wet

Every human has an innate complexion determined at birth in part due to astronomical arrangements.

Qualities reflected in the

humors:

phlegm,

-yellow/red bile (choler),

-black bile (melancholy),

-Blood

...the humors come together and produce tissues, tissues make up organs, and organs make up the body.



Figure 25 Bloodletting. A practitioner wearing a short robe, probably a surgeon or barber-surgeon, performs phlebotomy on a seated patient. A basin has been placed to catch the blood, which may subsequently be examined for purposes of diagnosis and prognosis. (Courtesy the Pierpont Morgan Library, New York, MS M. 105, mid-fifteenth century, fol. 19<sup>r</sup>.)

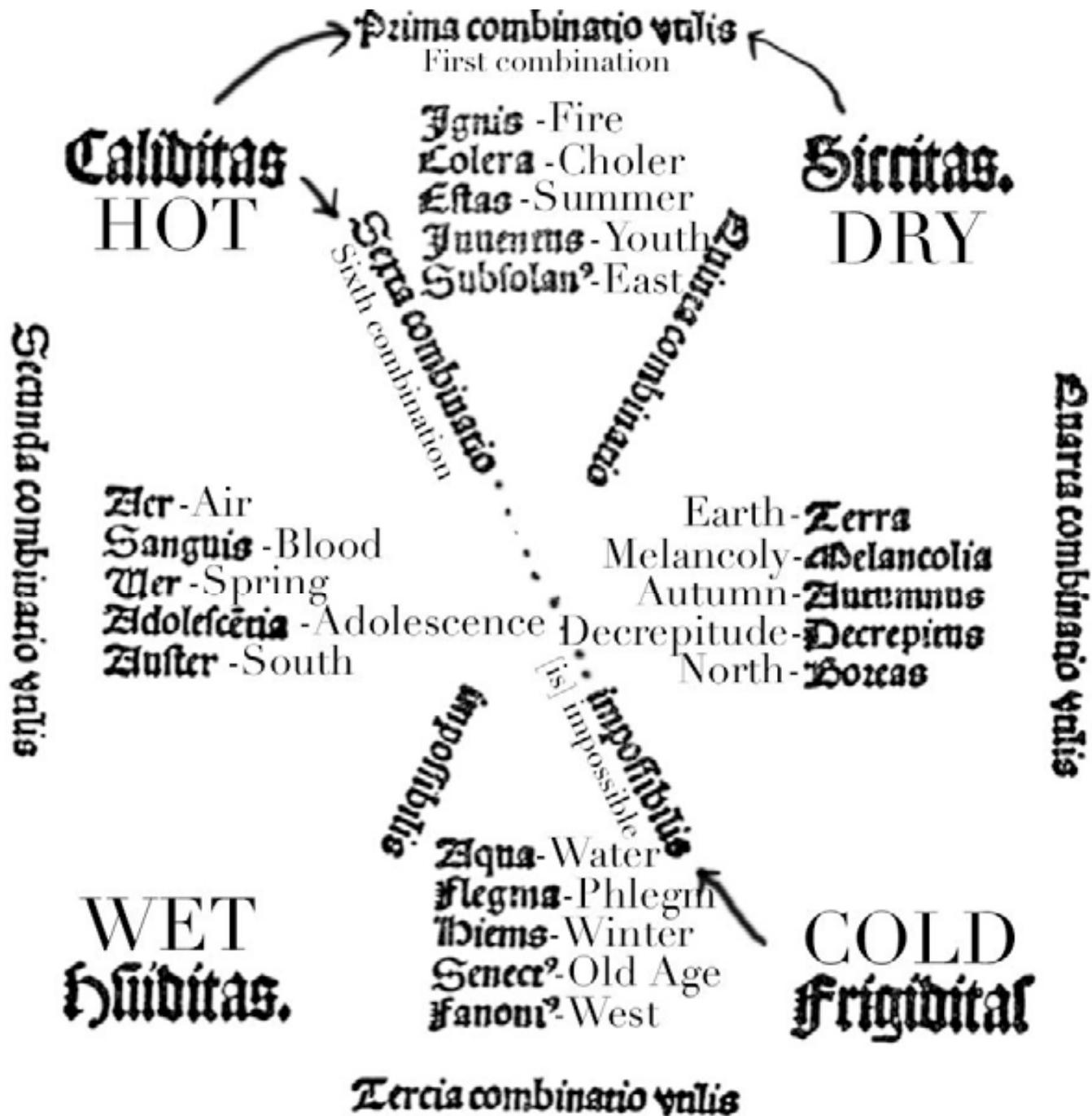


From the archeological museum in Athens. This method goes way back.

This is the medical theory which sought a balance of humors, which in practice often required the removal of an excess humor.



Figure 26 Cupping. A practitioner places heated metal cups on a patient's skin in order to draw the humors to the body part being treated. (Courtesy the Pierpont Morgan Library, New York, MS M. 105, mid-fifteenth century, fol. 24<sup>r</sup>.)



Aristotelian  
Matter  
and Humoral  
Medical Theory  
Relationships

Fire	
Air	Earth
Water	
Hot	Dry
Wet	Cold

Choler  
Blood Melancholy  
Phlegm

(Alchemy)

Determining the base-line “correct” balance of humors for a given patient was generally a function of astrology. Celestial arrangements determined one’s complexion. Thus birth horoscopes, nativities.

The microcosm (the human being) is a reflection of the macrocosm, the cosmic body.

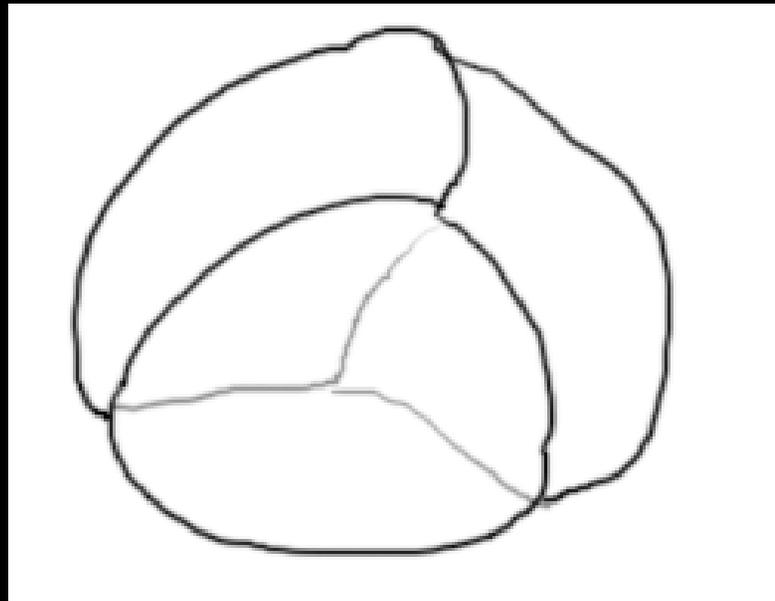




Figure 1.1 *The Aristotelian universe in the sixteenth century, from Petrus Apianus, Cosmographia (1539). The order of the planets in distance from the earth is that due to the astronomer Ptolemy, which differs slightly from that of Aristotle himself.*

This map of the cosmos actually shows most of what has been discussed so far.

Multiple spheres.

The 4 elements.

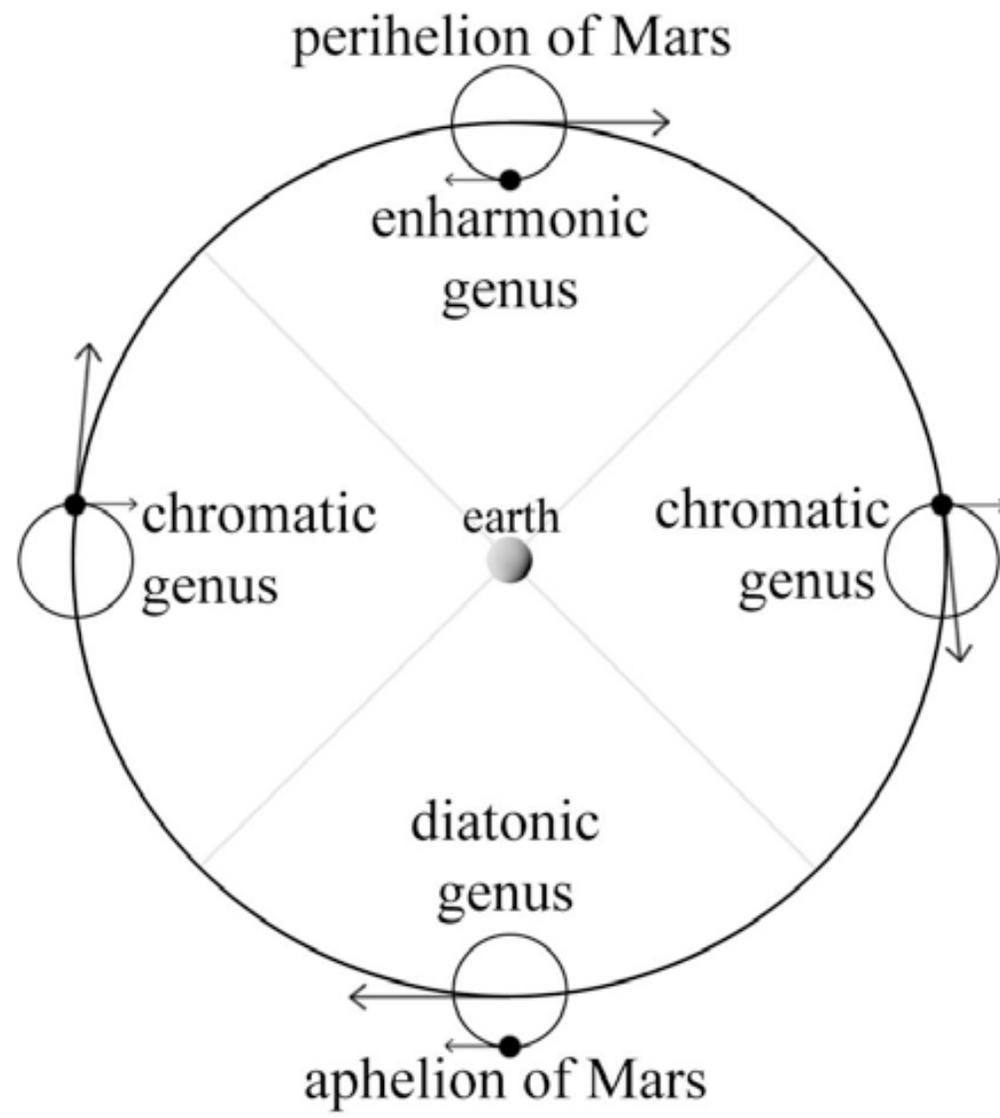
The planets.

Precession adjustments:

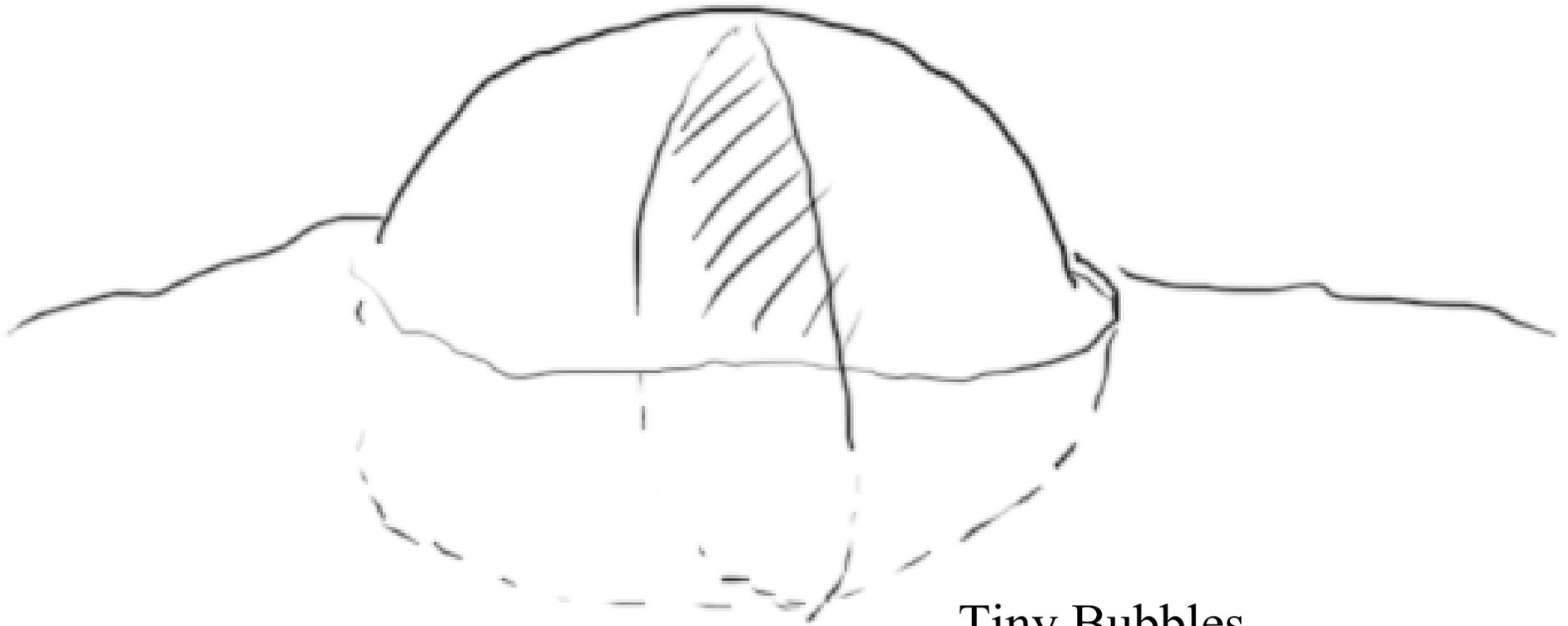
The outer ring is the astrological coordinate system and the 2 rings lower are the actual constellations. As you can see, at about 3:00,

Pisces is in Aries. This is from the 16th century. Now things have changed a bit and the sun is dawning in Aquarius,

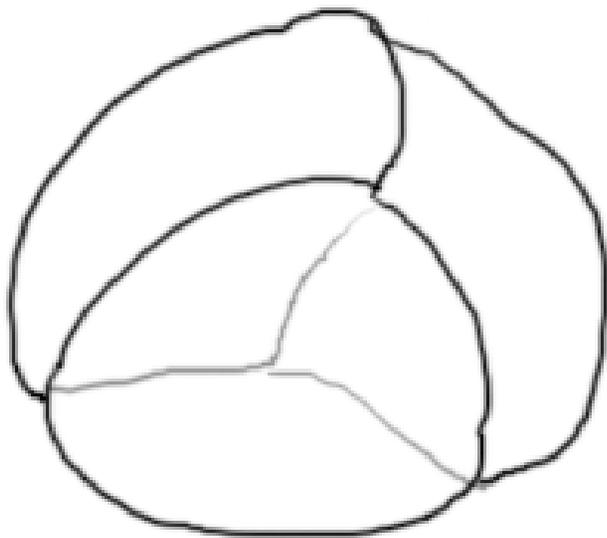
Aqu-air-ee-us.



Although Ibn Tufayl does not discuss it, Ptolemaic astrological theories were generally well understood by Islamic astrologers. Shown here are relationships between location on the epicycle and the corresponding harmonic genera.

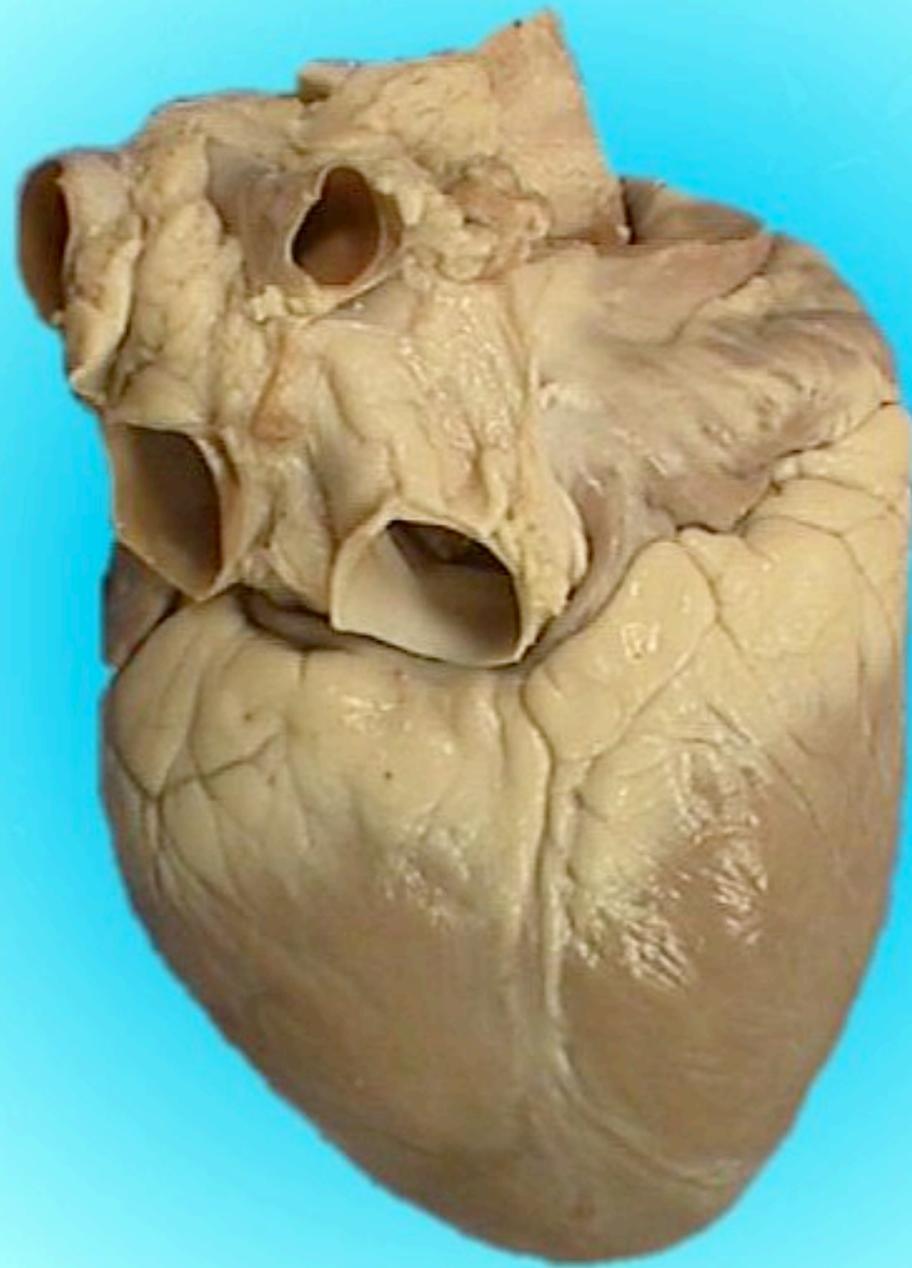


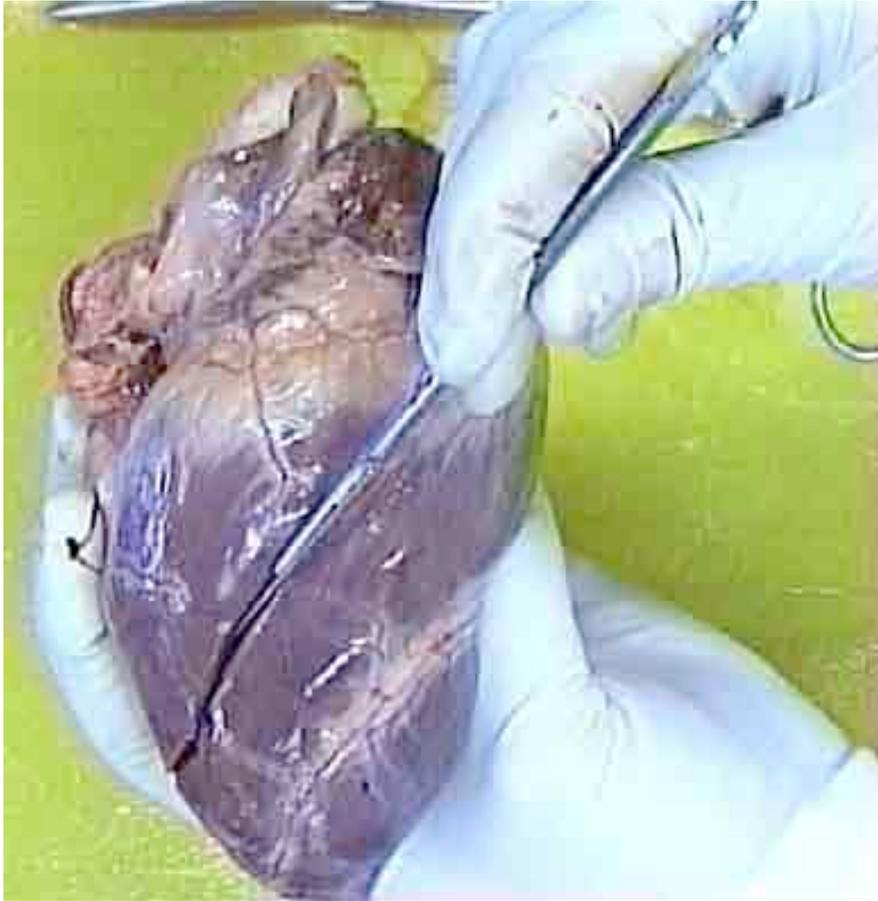
Tiny Bubbles  
In the [mud]  
make me feel.



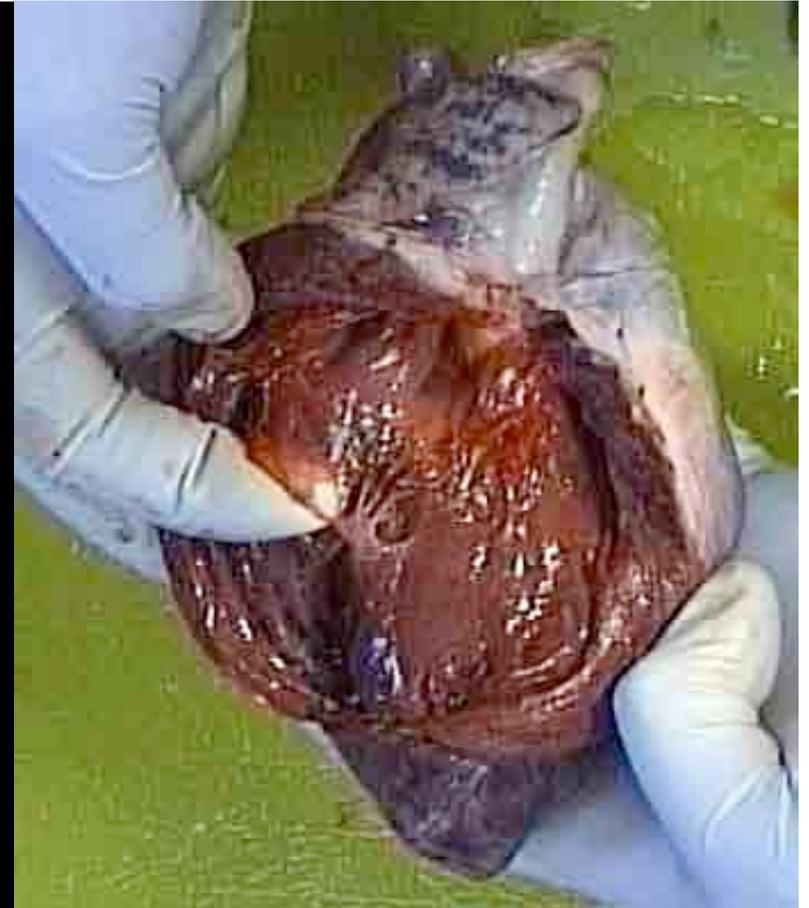
They are illuminated/informed by a  
cosmic breath, a *pneuma*, a *spiritus*, a  
logos, a substantial form, ..., an  
astrological arrangement....

Heart  
Liver  
Brain

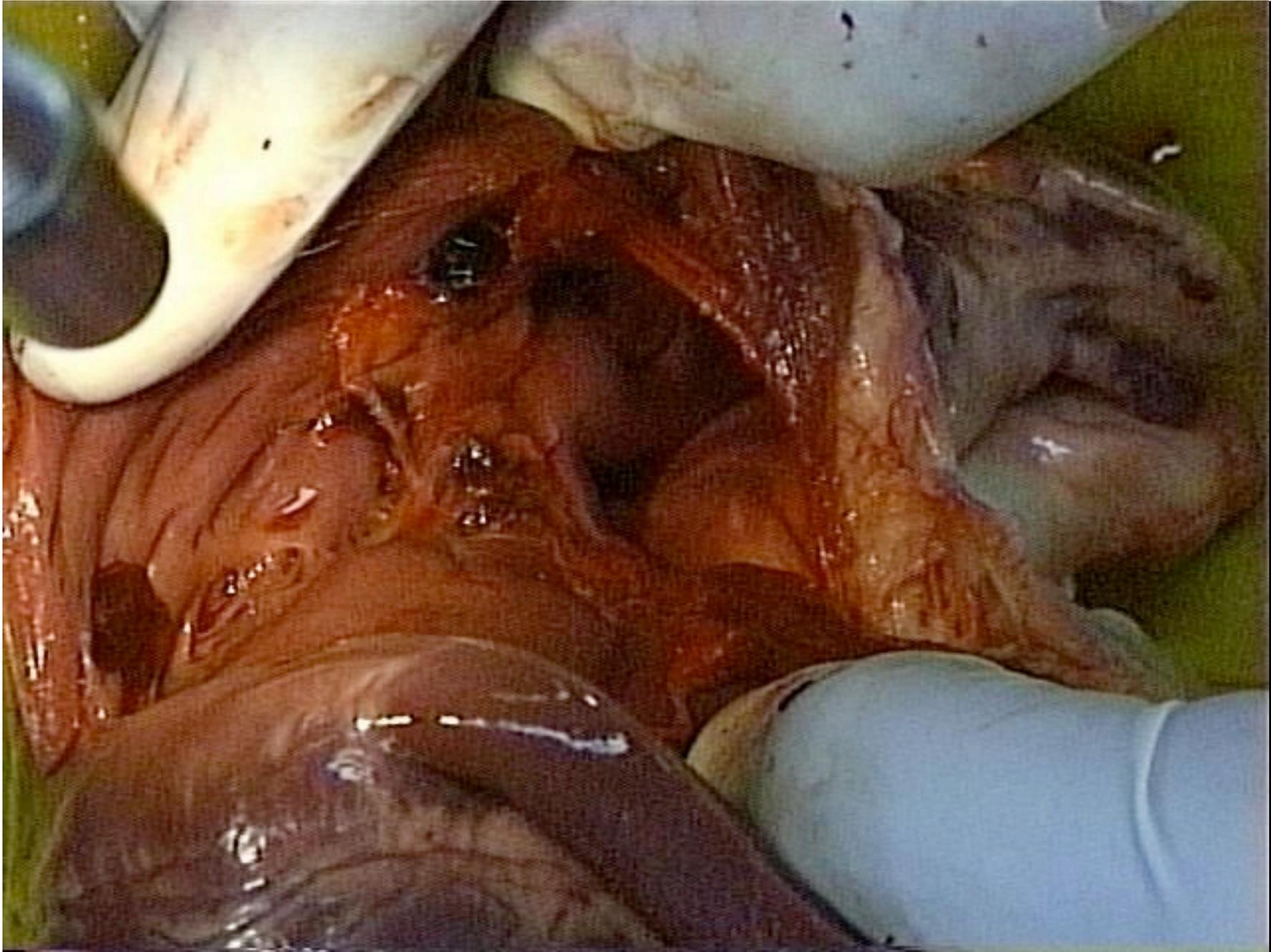




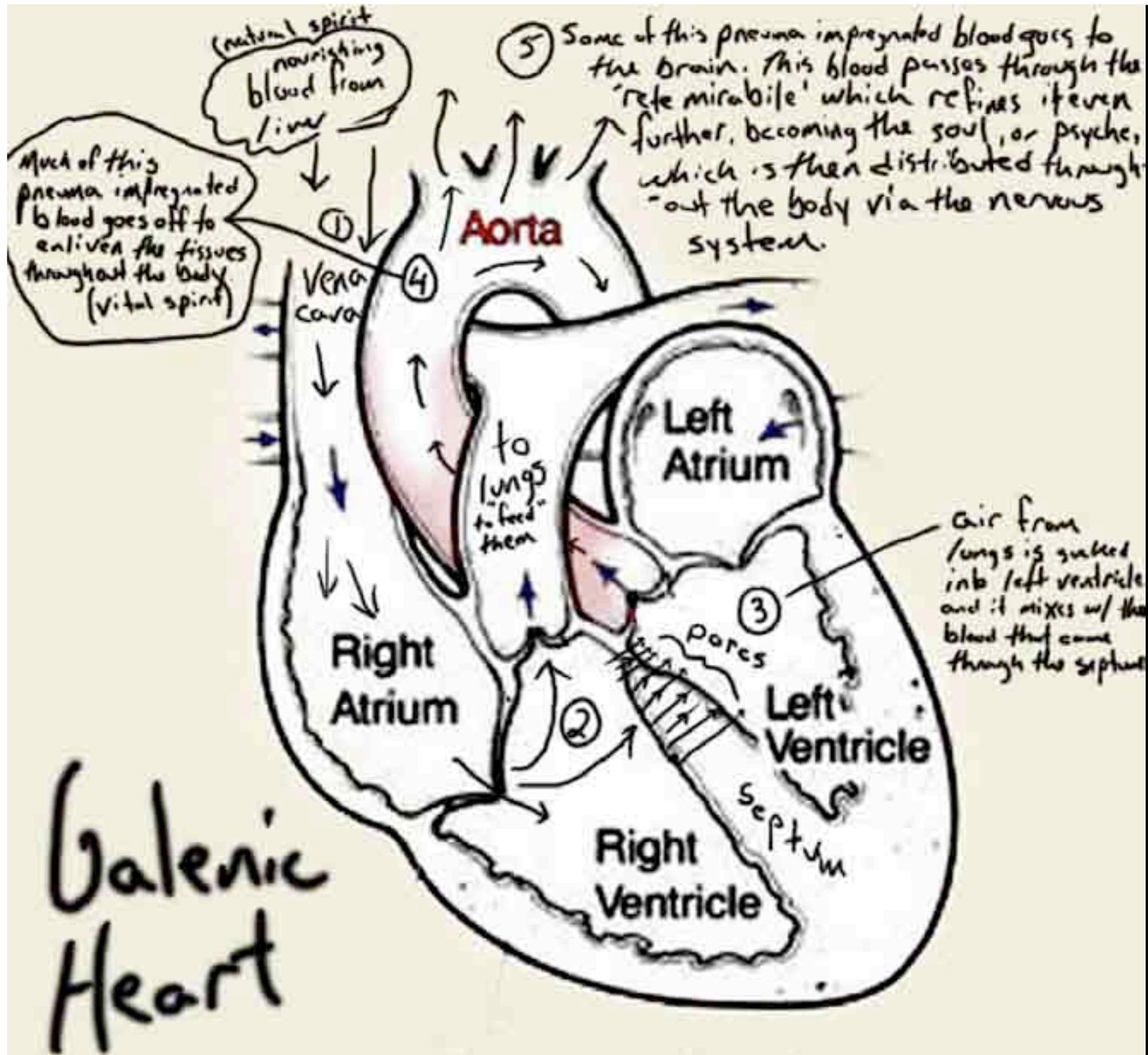
Cut it open...



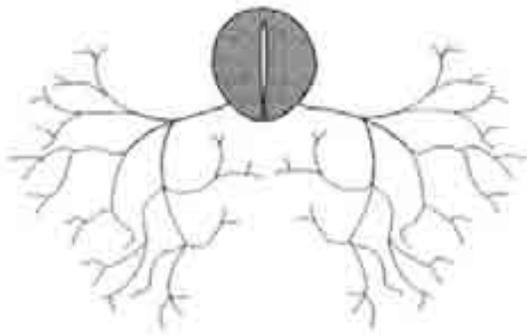
... and peer inside.



Right atrium



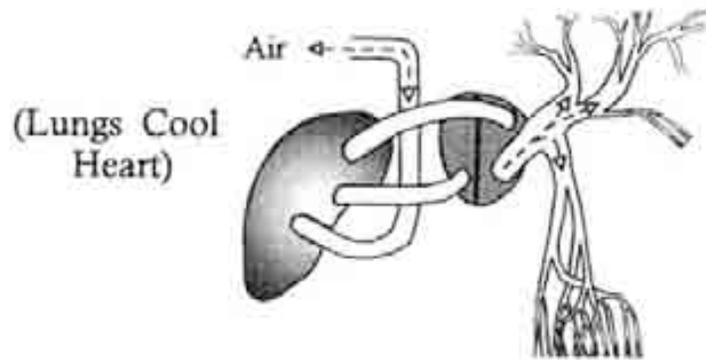
This is, generally speaking, how this type of heart works. Every medical theorist differed in details, but elements of this theory are evident even in Newton theory of perception and well beyond.



Brain/Nerves  
distribute  
"Animal Spirits"

### 3 Systems and "Spirits" of the Galenic Theory

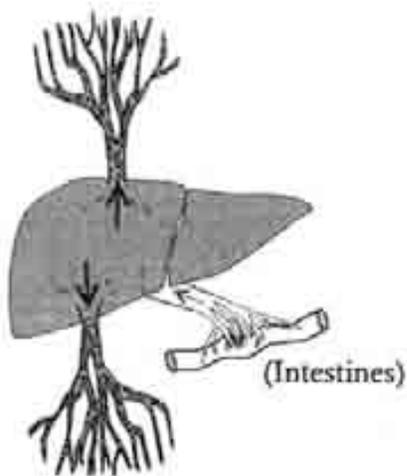
*Animal Spiritus* (*psychic pneuma*): soul or anima - mental activity, motion, sensation, e.g.. carried vision from eye to brain



(Lungs Cool  
Heart)

Heart/Arteries  
distribute  
"Vital Spirits"

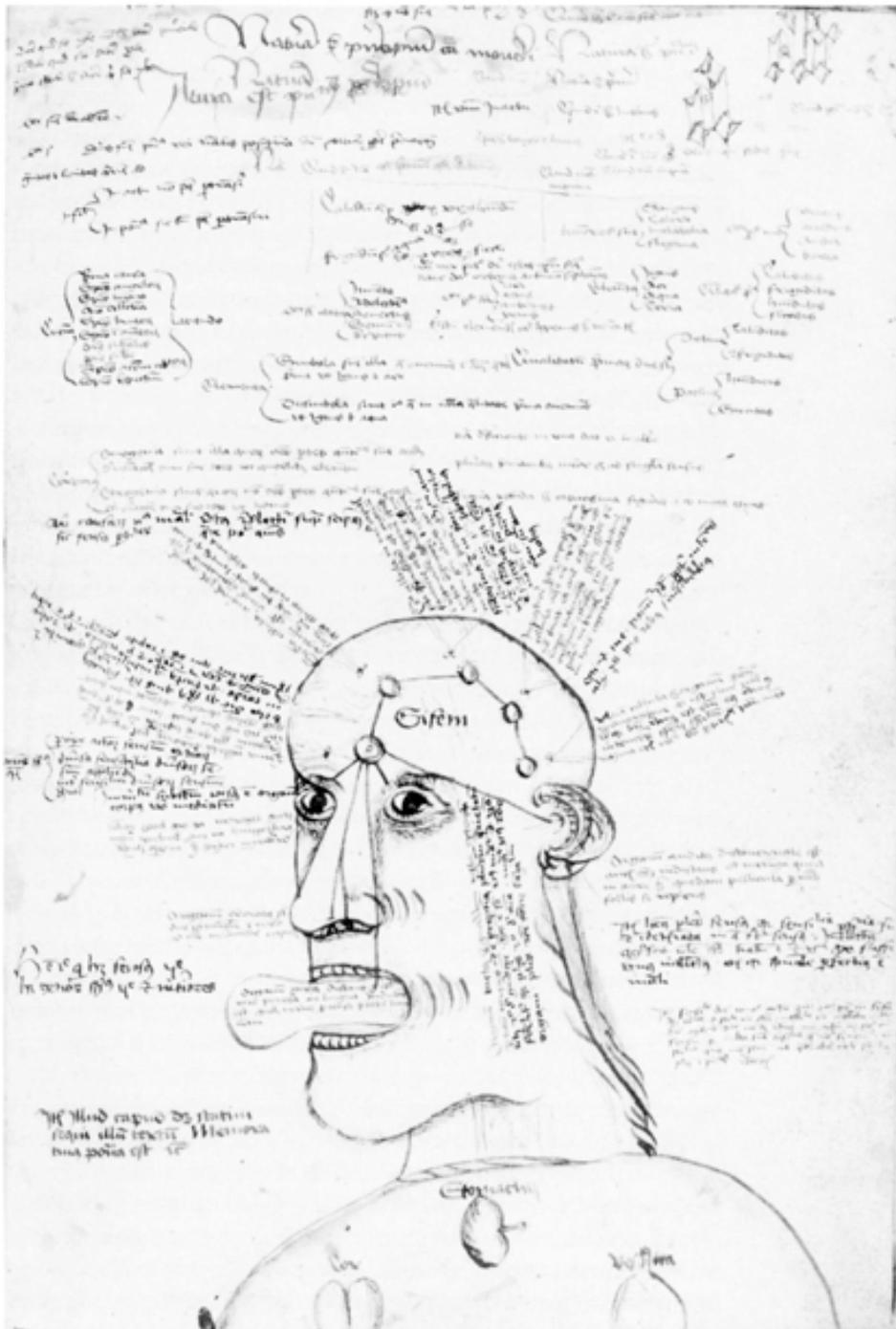
*Vital Spiritus* or *pneuma*: heart beat, rhythm, respiration



(Intestines)

Liver/Veins  
distribute  
"Nutrifying Spirits"

*Natural Spiritus*: nutrition, growth, distributed by blood



# 15th-century Galenic-Avicennic interpretation of Aristotle's *On the Soul* (*De anima*)

The five-fold division of mental activity: (L to R). This is a very complicated theory.

- 1) Sensory information
- 2) Imagination
- 3) Fantasy
- 4) Cognitive
- 5) Memory

The animal spirit is the interface between soul and body.  
This spirit allows the 5 senses to function.  
Hayy's theory of a blockage.

In the basement of a university medical school Dr. Jessup floats naked in total darkness. The most terrifying experiment in the history of science is out of control...and the subject is himself.

Free Your Ass and Your  
Mind Will Follow.  
In 117

Getting Dizzy.  
Meditation.

The material body gets  
in the way of a good trip  
to to meet the  
thinker/maker.

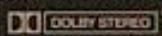
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