

# The First Goetheanum

## **Part 2: The evolution of architectural monuments/temples through the ages.**

Anthroposophy is the awareness of the divine wisdom incorporated in the complete human being

# Rudolf Steiner's First Goetheanum

This unique building was in existence for less than ten years just over a hundred years ago. It was designed by Rudolf Steiner as an earthly home for the spirit of anthroposophy: **Anthroposophia**.

In this presentation I will give some background on:

- ❖ Part 1: Rudolf Steiner and his artistic architectural impulse.
- ❖ **Part 2: The evolution of architectural monuments/temples through the ages.**
- ❖ Part 3: The Geometry of the Building.
- ❖ Part 4: Building construction.
- ❖ Part 5: The Art within.

# Buildings evolve with archetypal Humanity

- Rudolf Steiner speaks of the correspondence between the development of Archetypal Humanity and the evolution of:
  1. Solar System in 7 **time** stages: Ancient Saturn, Sun and Moon; current Earth; followed by Future Jupiter, Venus and Vulcan.
  2. Current Earth with 7 Epochs: Polaris; Hyperborea; Lemuria; Atlantis; **current Post-Atlantis**; and 2 more future epochs.
  3. Post-Atlantean Civilisations Ages (each of 2160 years) developing archetypal Humanity: Indian {archetypal Etheric Body}; Persian {archetypal. Astral Body}; Egypto-Chaldean {archetypal. Sentient Soul}; Greco-Roman {archetypal. Comprehension Soul}; current Anglo-German {archetypal. Consciousness Soul}; future Russian {archetypal. Spirit Self}; American {archetypal. Life Spirit}.  
\*\*\*\*\*
  4. Human lifetime from birth to death in 3x3x7-year stages developing:  
Physical, Etheric, & Astral Bodies to 21y.  
Sentient, Comprehension, & Consciousness Souls to 42y.  
Spirit Self, Life Spirit, & Spirit Human to 63y.

# Temple-Building Structural Styles

- Up to the Persian civilisation humanity had a clairvoyant perception of the spiritual worlds and so **did not need** Temples for their Gods.
- This clairvoyance declined and dimmed as humanity's archetypal Sentient Soul developed during the Egypto-Chaldean Civilisations, and human beings became more inward.
- Humanity now built monuments, and later temples to remind themselves of the Gods and support the fading memories of spiritual realms.
- Two contrasting building forms emerged:
  - Centric – square or circular (Static form - Exusiai)
  - Axial – long and thin (encouraging movement - Dynamis)

# Effect of Form on a visitor

- Centric (circular) forms have a tendency to draw visitors to its centre – equidistant from its walls – where they become static, immobile.
- Axial forms are long and narrow – often in a West-East direction (sunset-sunrise orientation). Enter from west and move toward sunrise.
- A visitor entering the narrow western end is drawn by the architectural form to the opposite end [where there may be an altar].
- The visitor is stimulated to move, to not remain at rest.
- The geometry of temple-type buildings often contains a secret relating to the structure of the cosmos (astronomy) and/or the human being.

PA age [2160 years]	Major civilisations	Dates	Archetypal Human aspect developed	Monumental, Religious, Esoteric Architecture exemplars	Structural Form
2 <sup>nd</sup>	Persian	5000 to 2900 BC	Archetypal Astral Body	Very few. (First towns/cities were being built)	
3 <sup>rd</sup>	Druid/Celtic	2900 to 750 BC	Archetypal Sentient Soul (Outer form to be seen from afar)	Stonehenge ~2500BC	Centric
	Egyptian; Chaldean; Hebrew			Giza Great Pyramid ~2450BC	Centric
4 <sup>th</sup>	Greek; Roman empire	750 BC to 1400 AD	Archetypal Comprehension Soul (Inner space for congregation)	Parthenon ~450BC	Axial
	Europe			Pantheon ~125AD ***** Chartres Cathedral ~1250AD	Centric  Axial
5 <sup>th</sup>	Modern	1400 to 3570 AD	Archetypal Consciousness Soul	Goetheanum ~1913-22	Combined centric and axial



# Stonehenge: 2,500 bce



Summer Solstice Sunrise

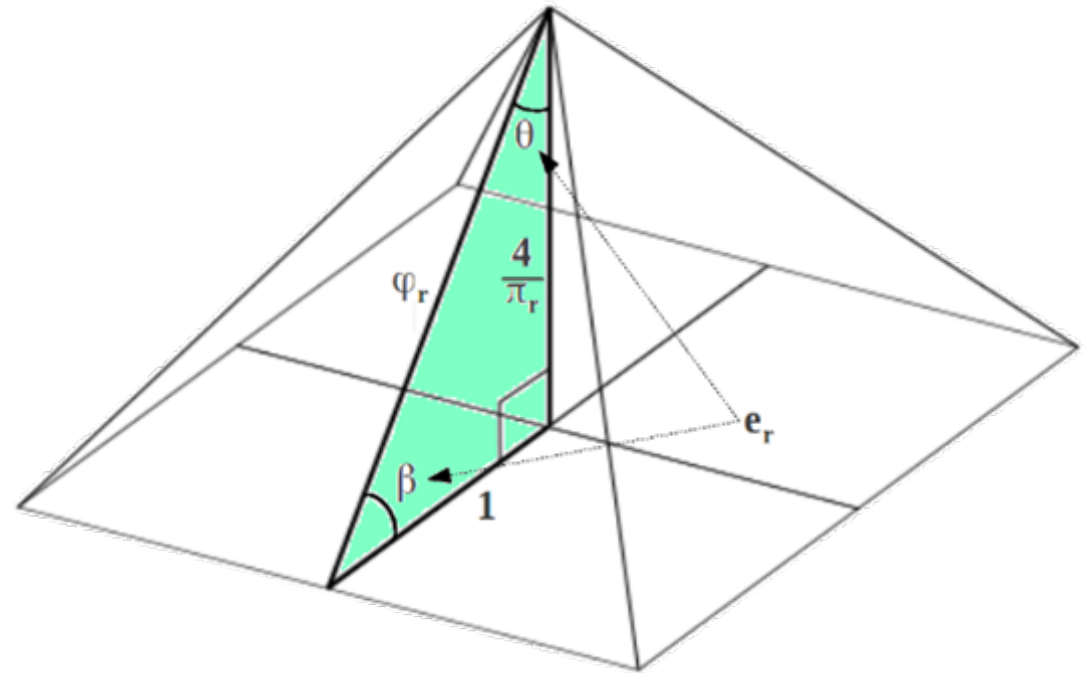
# Stonehenge

- Its form is circular or centric.
- Many of the large stones are vertical – reflecting the uprightness of the conscious human being.
- There are many tri-liths – two upright stones with a horizontal lintel representing a balance between downward weight and uplifting force.
- The alignment of certain stones on opposite sides of the circle indicated some astronomical events
  - the rising and setting sun at solstices and equinox.
  - the sequence of 51 solar eclipses (in a 18y 7m 9d Moon node period.)



# Great Pyramid at Giza in Egypt

- Constructed for Cheops [Khufu] around 2,450 bce
- Form: centric, square base. It is a stone mountain (with a triangular section) on a flat ground.
- The white capstone would catch the **SUN's** rays heralding sunrise and last thing after sunset.
- The open space inside it is tiny – an initiation chamber containing a sarcophagus with a heavy stone lid. The candidate for initiation, laid in the sarcophagus for 3 days, experienced a near death moment before being released.
- “It is as though the pyramid had been built so that the earth might experience within itself what can be perceived in the cosmos. The Sentient Soul brings to life within itself what exists outside, depicting in its own way within itself, what is there outside.” (RS 5 Feb 1913)



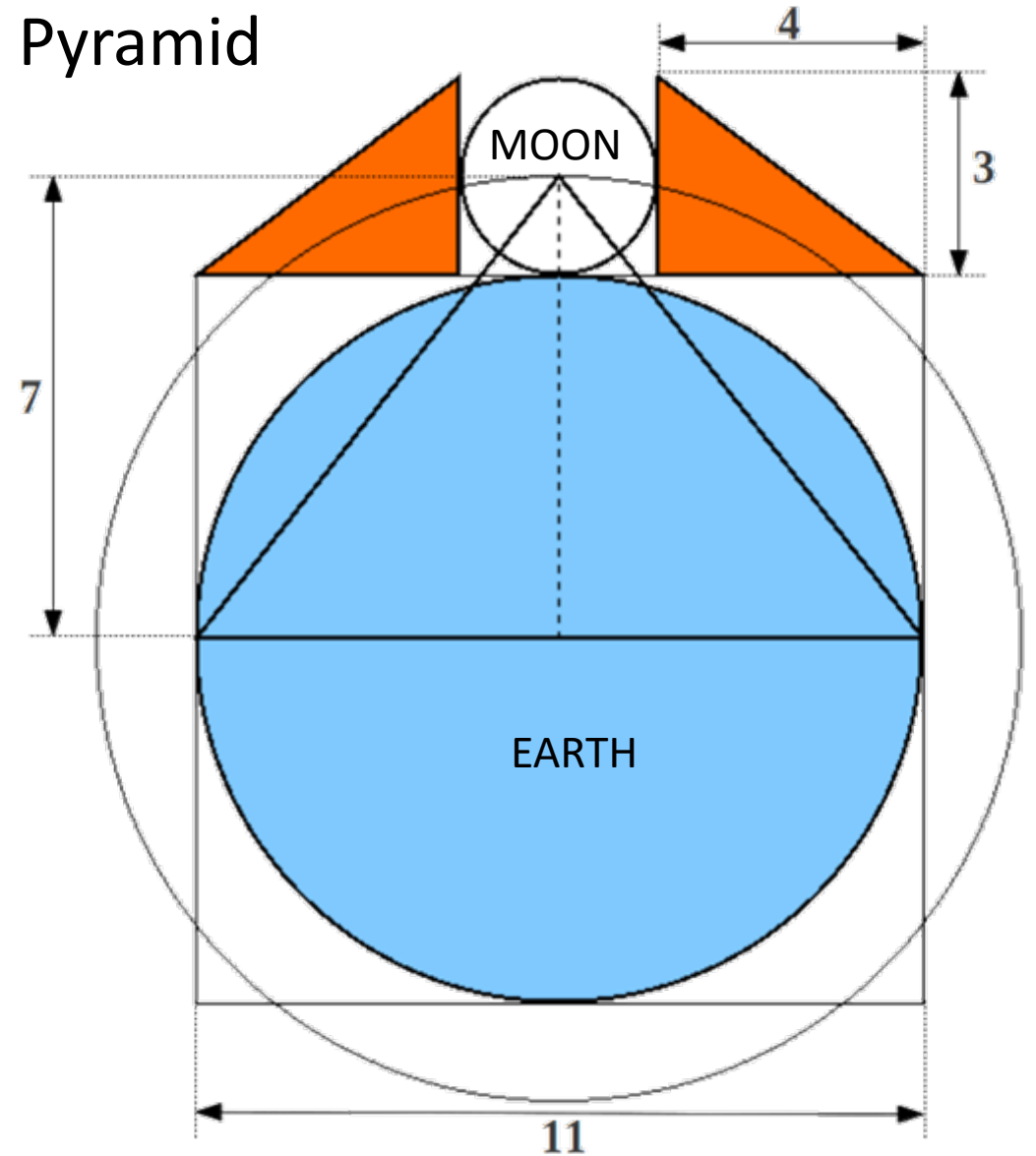
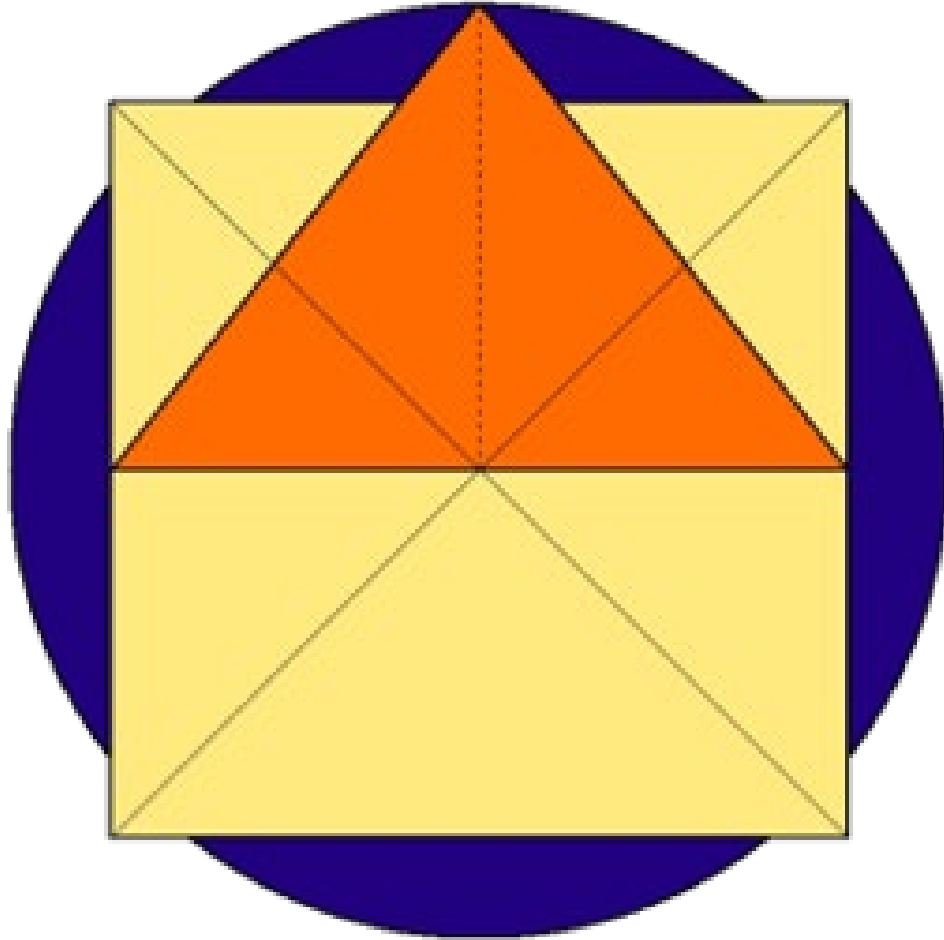
The Great Pyramid of Giza. Built  $\sim 2450$  BCE

# Sacred Geometry of the Great Pyramid.

- **Squaring the circle.** The *perimeter* of the square base [ $4 \times 440 = 1760$  Egyptian cubits (Ec)] is equal to the *circumference* of a circle with the height of the pyramid [280 Ec] as radius. [see first diagram]  
$$4 \times B = 2 \times \pi \times h \rightarrow \pi = 2 \times B / h.$$
  
So  $\pi = 880 / 280 = 22/7$
- These dimensions relate to the relative size of the Earth and the Moon.  
 $(R_{\text{earth}} + R_{\text{moon}}) / (2 \times R_{\text{earth}}) = h / B$  [see second diagram]
- {This uses the approximation that  $R_{\text{moon}} = (3/11) \times R_{\text{earth}}$ }
- Each corner faces a different cardinal direction: North, East, South, and West exactly.
- It is estimated that the Pyramid is constructed from 5.5M tons of nearby limestone; outer layer of 8,000 tons of granite from Aswan 800km away; and 500,000 tons of mortar. There are no records saying how it was constructed.
- The base is level to within 3cm and the sides differ by less than 5cm. Remarkable accuracy with such unwieldy heavy stones that would be difficult to achieve even with today's technology.

# Mysteries of the Pyramid

## Squaring the Circle



# Greek Temple for the Goddess Athene: The Parthenon

- Built c450 BCE – about 300 years after start of 4<sup>th</sup> PA Age.
- Located in a prominent place near Athens, and visible from great distances around it.
- Not a place where people congregate, but a home for a large statue of the Goddess Athene.
- “We dwell in the countryside, and the Spirit is amongst us.”  
So speaks the idea of Greek architecture. (RS Dornach 28-6-1914)



# PARTHENON

Goddess: Pallas Athene

Built ~450 BCE



An artist's reconstruction



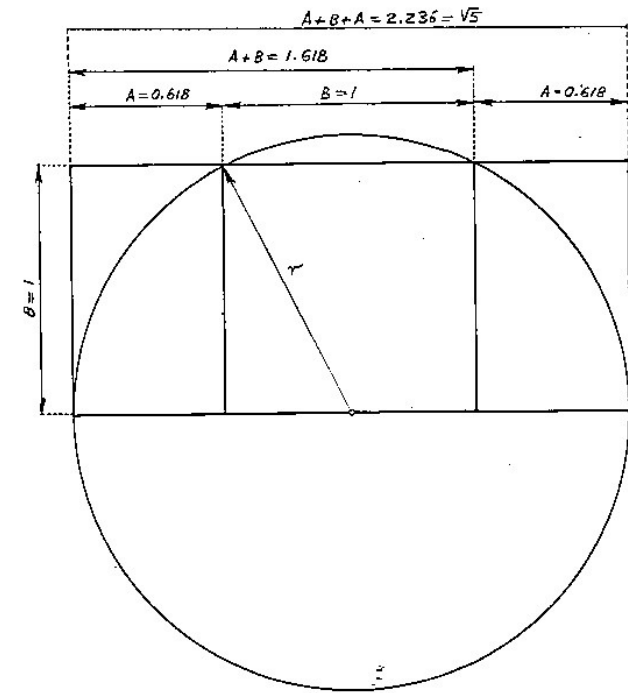
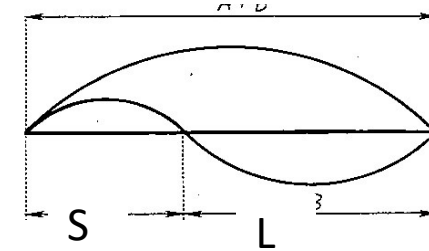
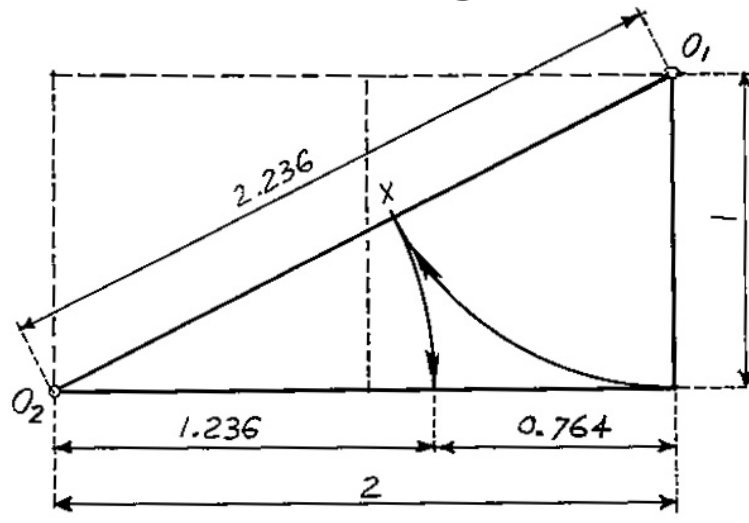
## The Parthenon today





# Sacred Geometry of the Parthenon $S + L = W$

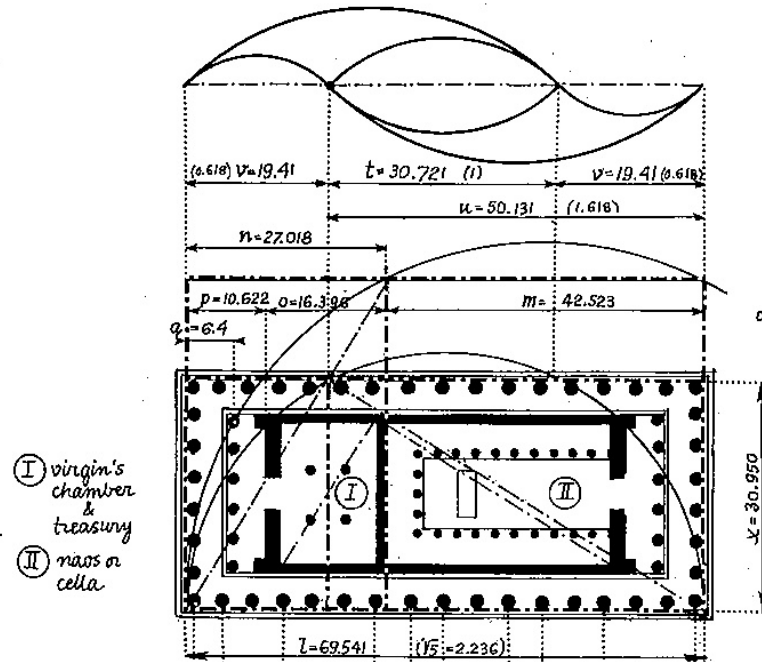
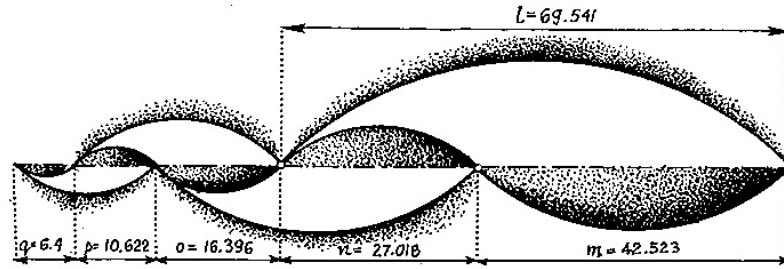
- Golden Section,  $g$ : when two unequal parts of a whole are such the ratio of the smaller,  $S$ , to the larger,  $L$ , is the same as the ratio of the larger,  $L$ , to the whole,  $W$ .
- $S + L = W$  and  $S/L = L/W = g = 0.618....$   
Golden Ratio,  $G = 1/g = 1.618....$



Classical construction of the golden section, with square within semicircle. Rectangles  $1 \times 0.618$  and  $1 \times 1.618$  are reciprocal golden rectangles.

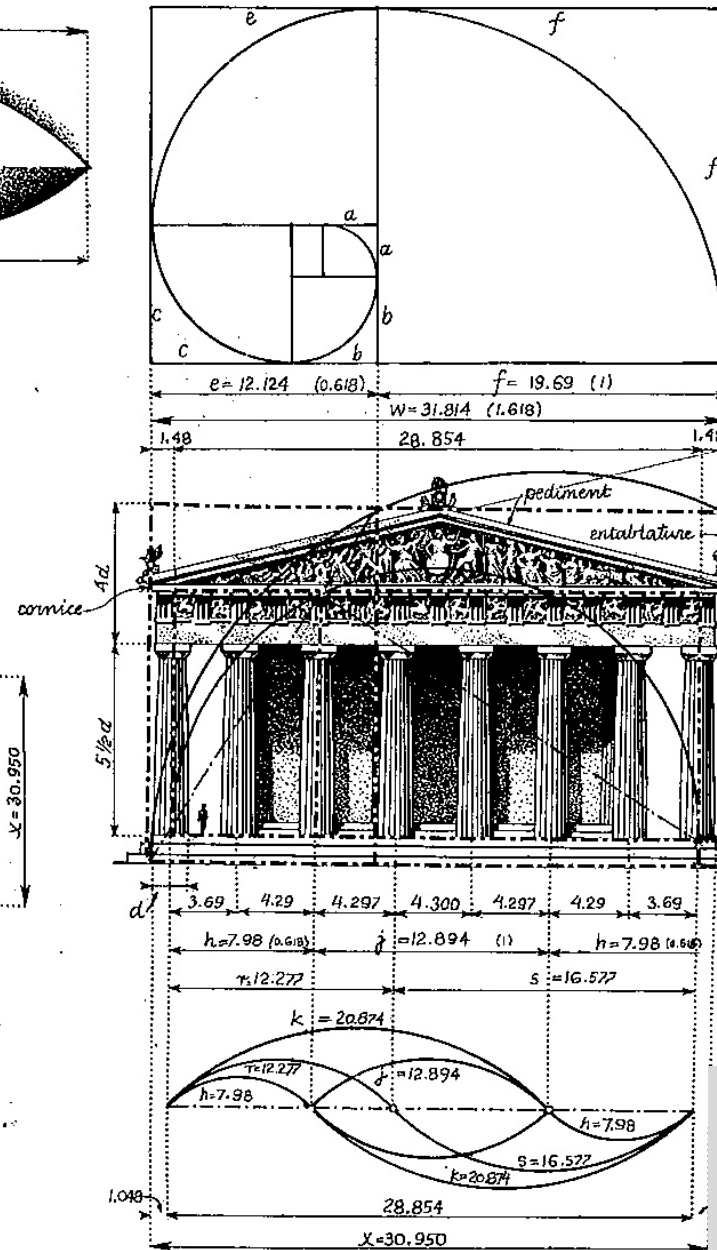
# Geometry of the Parthenon – Golden Ratio, G

(A) Some basic dimensions of plan, in golden proportion:



Scale for plan:  
0 5 10 20 30 40 50 60 m

(B) Some basic dimensions of front elevation, in golden proportion:



Scale for front elevation:  
0 5 10 15 20 25 m

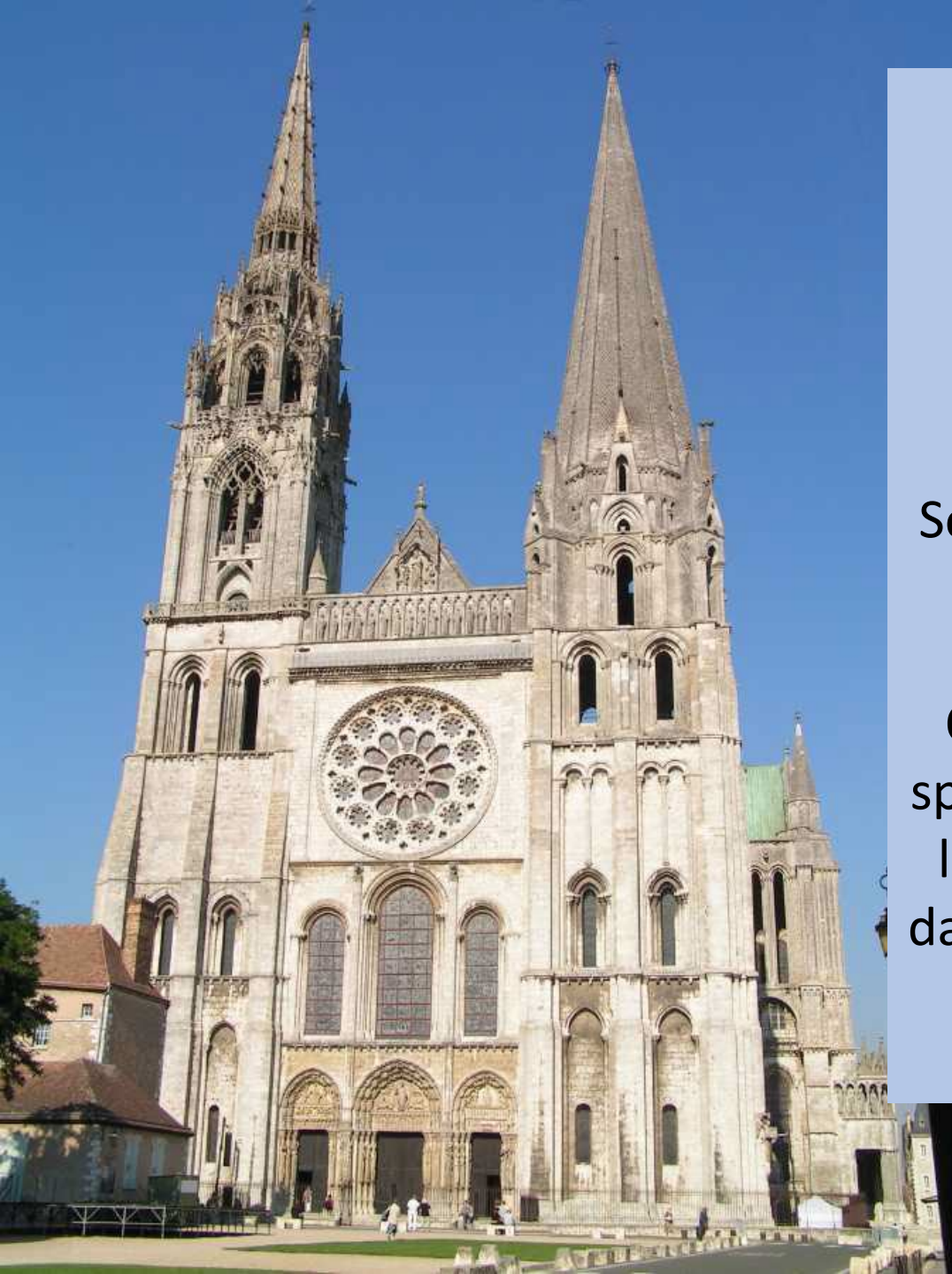
From "The Power of Limits"  
PROPORTIONAL Harmonies in Nature,  
Art, and Architecture by Gyorgy Doczi





Pantheon (All Gods) Rome. Built ~125 AD  
Hemispherical dome. Concrete panels hollowed to reduce weight.

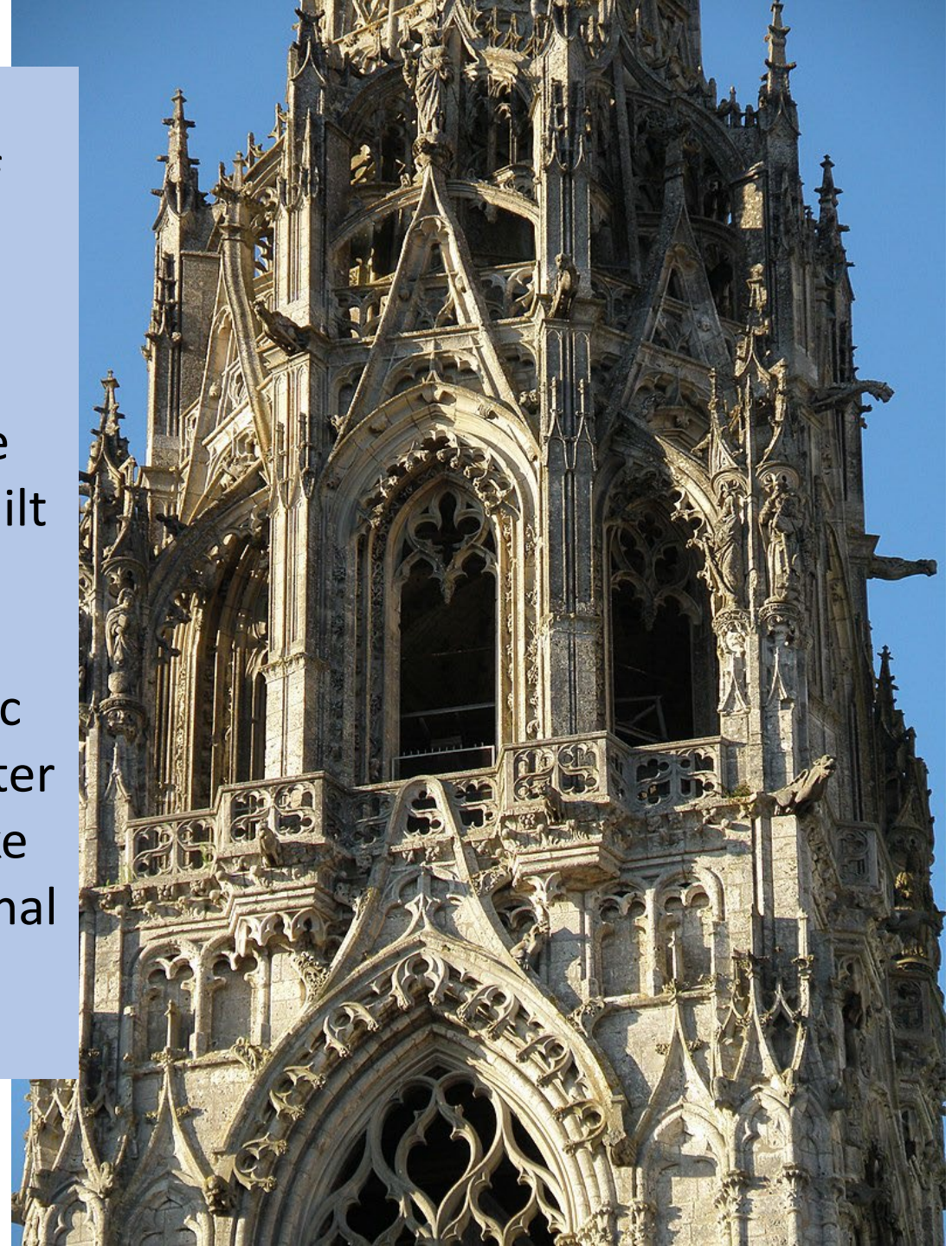




Chartres  
Cathedral of  
Notre Dame  
C 1250 AD

Romanesque  
South spire built  
c1160 AD

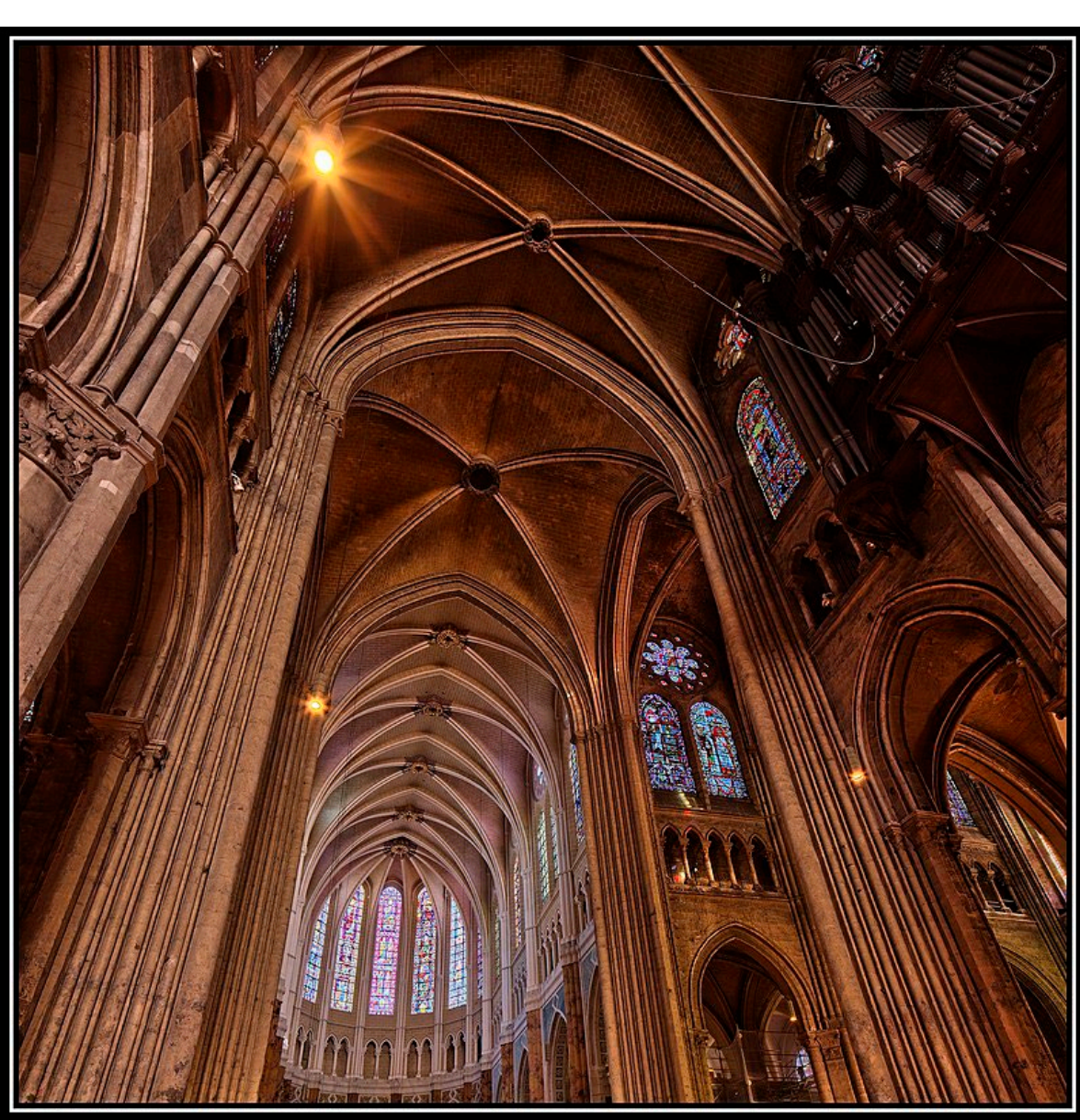
Ornate Gothic  
spire added after  
lightning strike  
damaged original  
(1513 AD)











Chartres Cathedral (built ~1250 AD) as example of late Gothic architecture.

“We tarry in the cathedral, and our soul is uplifted as we raise ourselves in anticipation of the spirit.” So speaks the idea of Gothic architecture. [RS]



# Gothic Arches

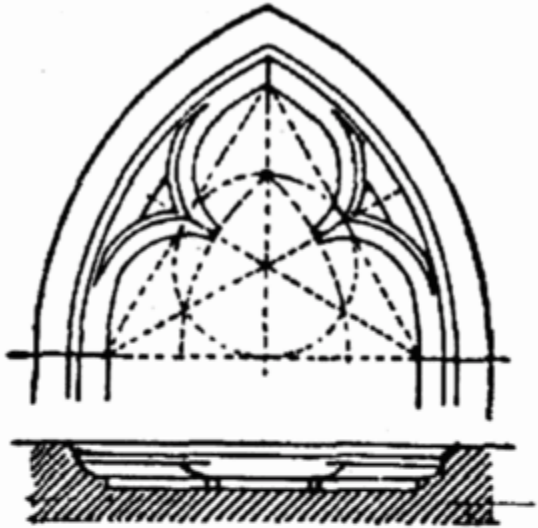


Fig. 1.

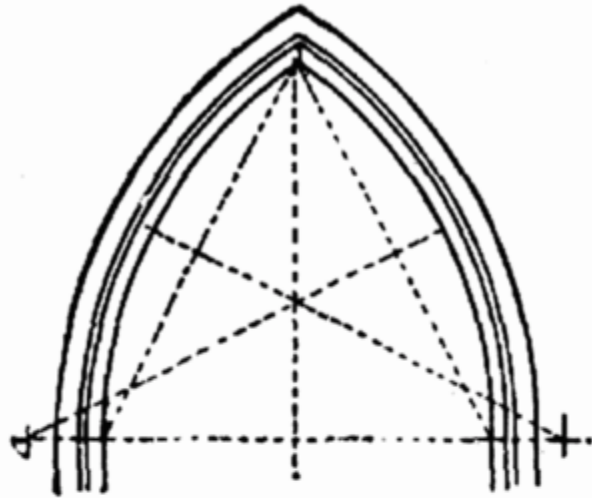


Fig. 3.

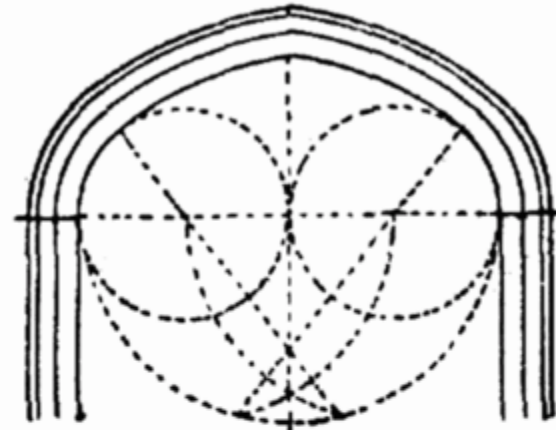


Fig. 5.

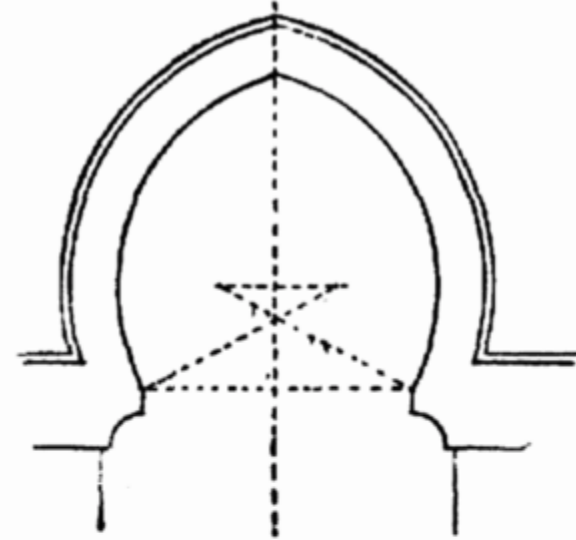


Fig. 7.

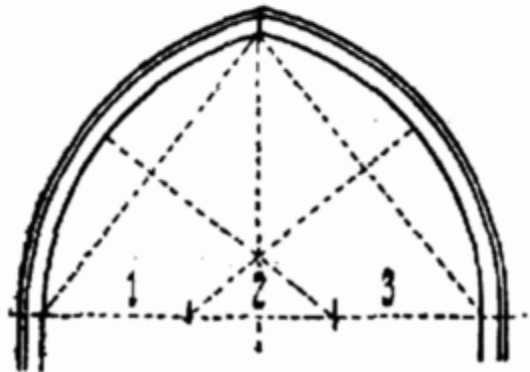


Fig. 2.



Fig. 4.

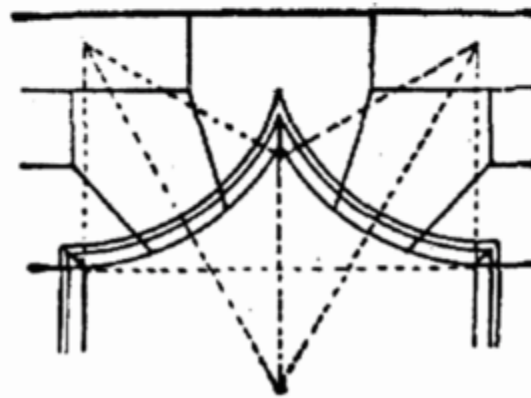


Fig. 6.