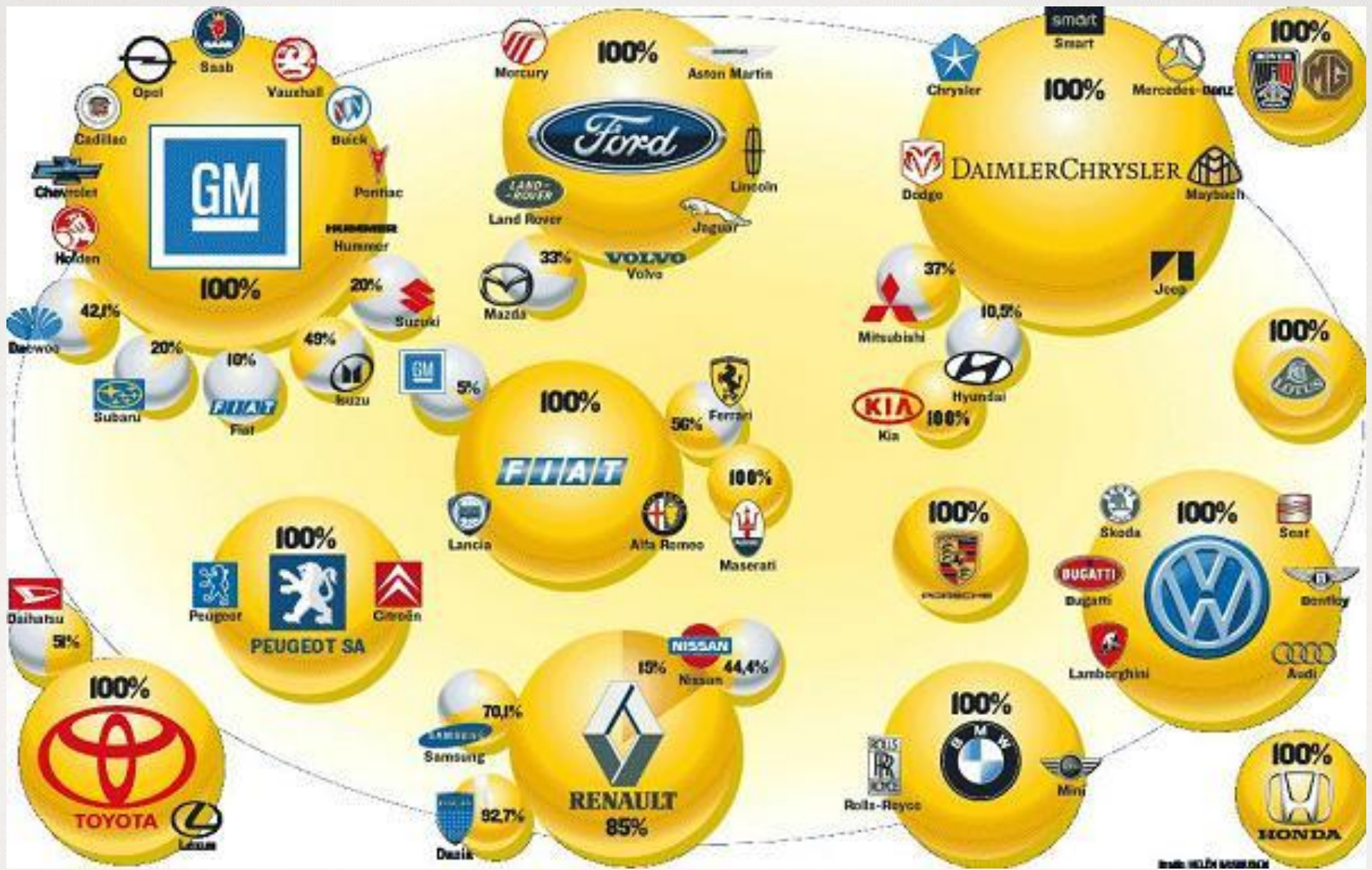




# DISEÑO AUTOMOTRÍZ

Ing. Martín Pacheco B.

Mpbdesign@outlook.com / +58 (412) 0554148





# Ownership Structure



# UNIDAD II Diseño Vehicular (Ingeniería Gráfica del Automóvil)

*Expresión Gráfica o Sketching  
Desarrollo de Conceptos*





## *Concepto*

*Creación  
Diseño  
Inspiración*



## *Ingeniería*

*Diseño y selección  
de partes del  
vehículo*

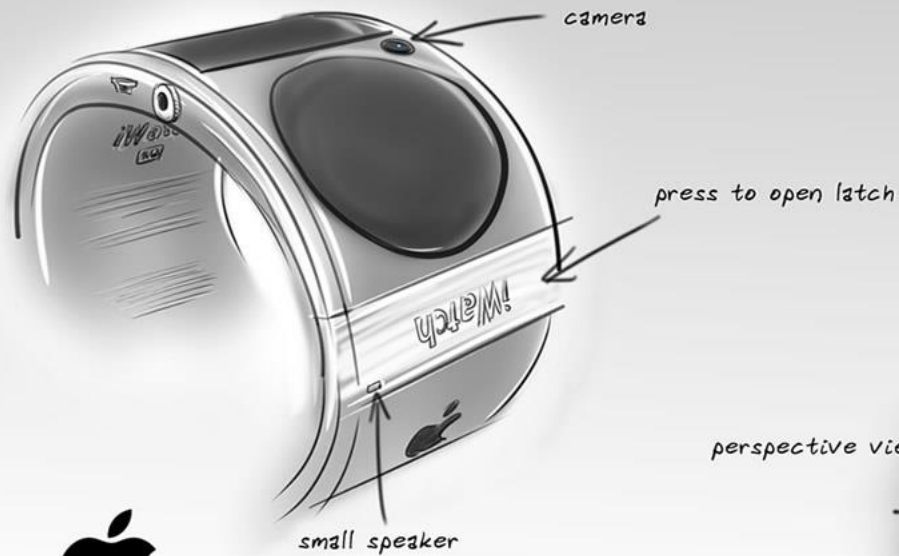


## *Producción*

*Métodos de Fabricación  
Ingeniería en producción  
Control de Calidad*



# Apple iWatch



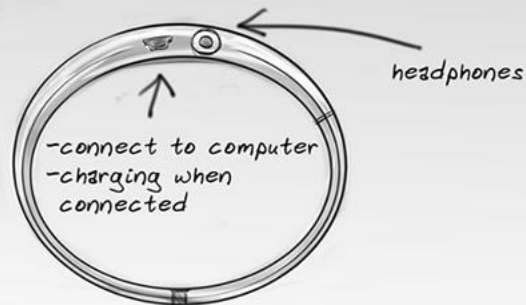
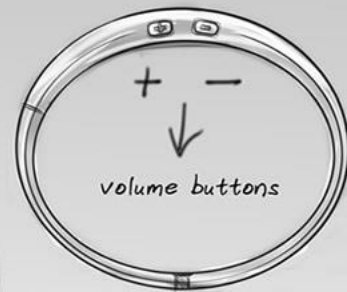
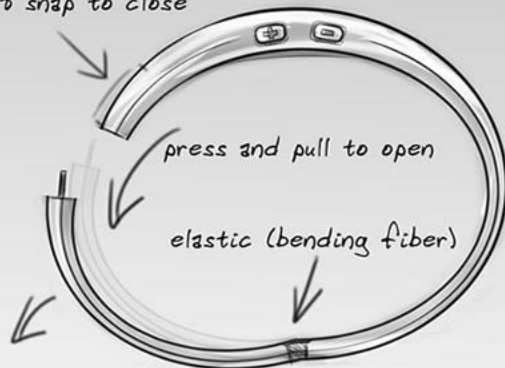
dual screens represent the letter "i"

perspective view

large curved screen, showing icons, iOS functionality



open/unlock system: pressing the 'iWatch' button to snap to close

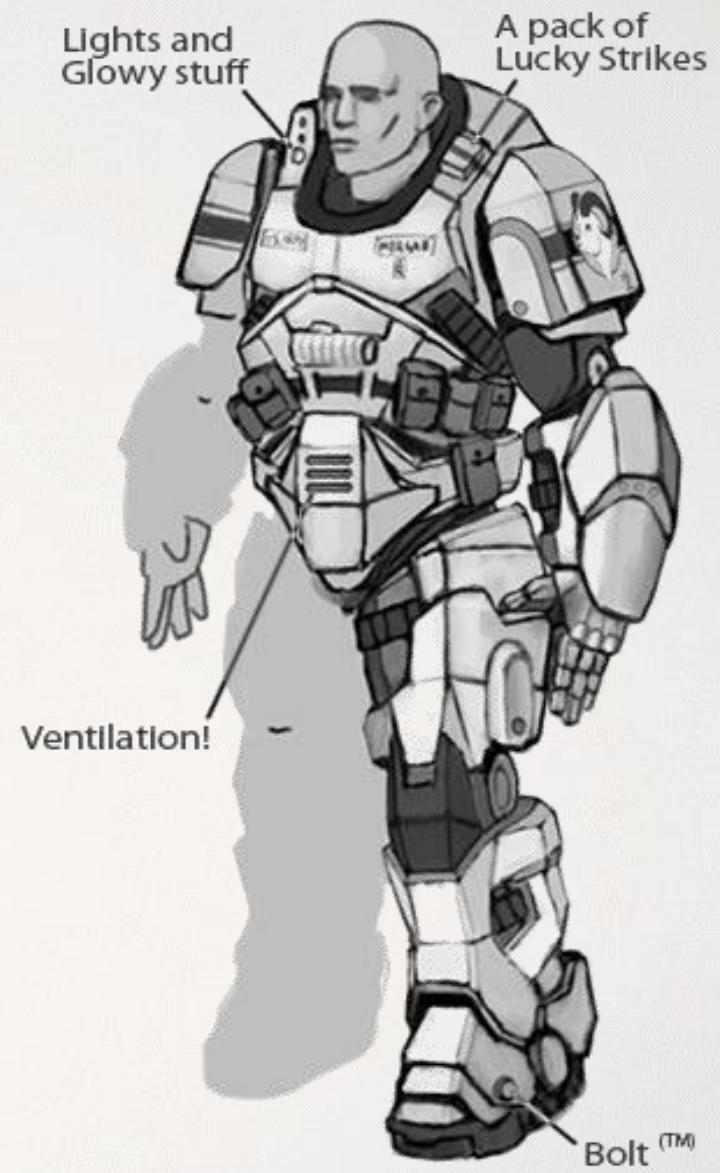


rounded touch screen that displays watch or video when using Skype.

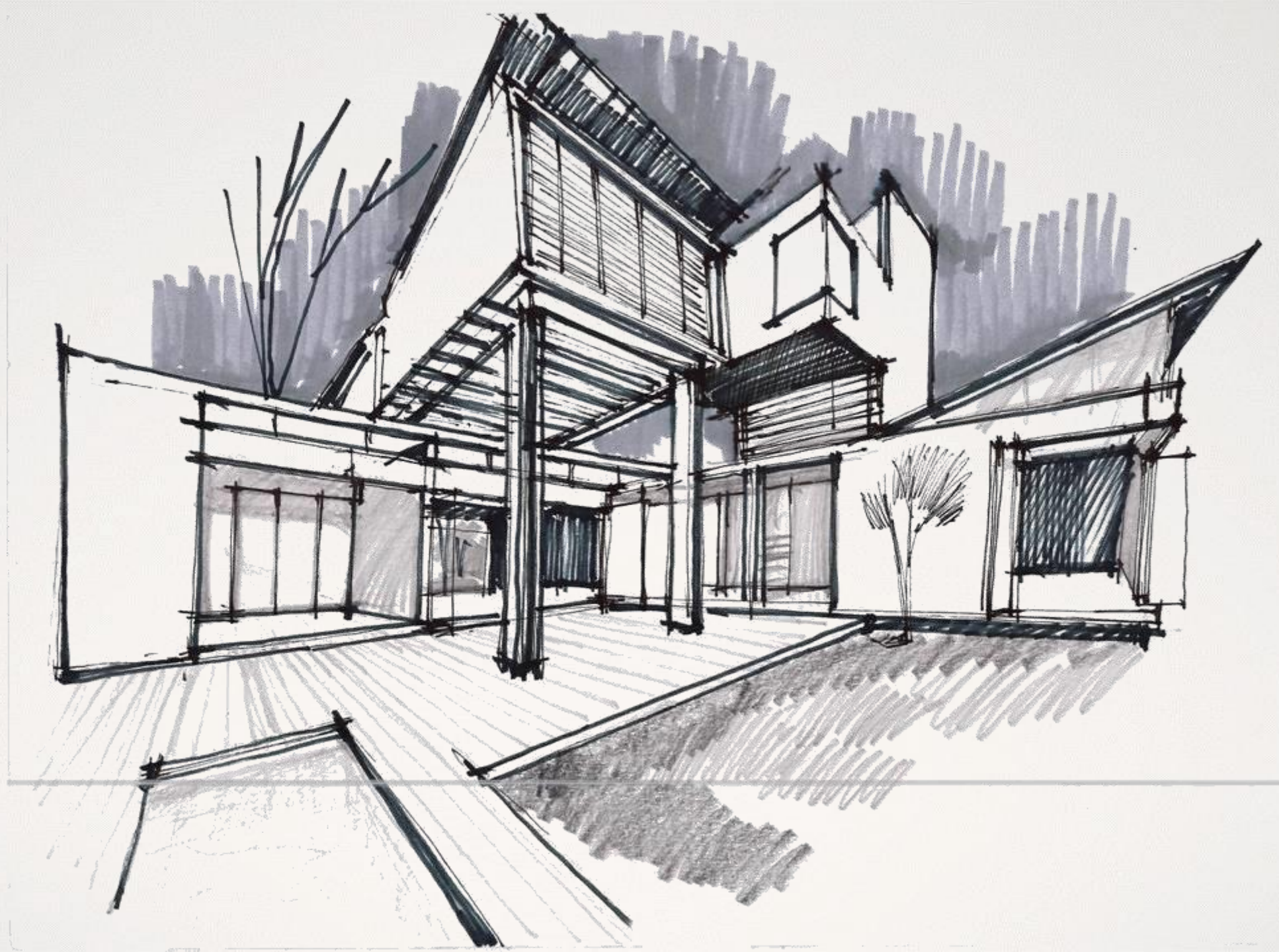
double-tap on screen to show watch (when watch in standby mode)

iWatch in use...

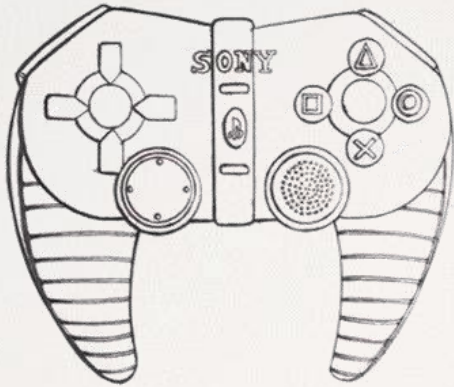




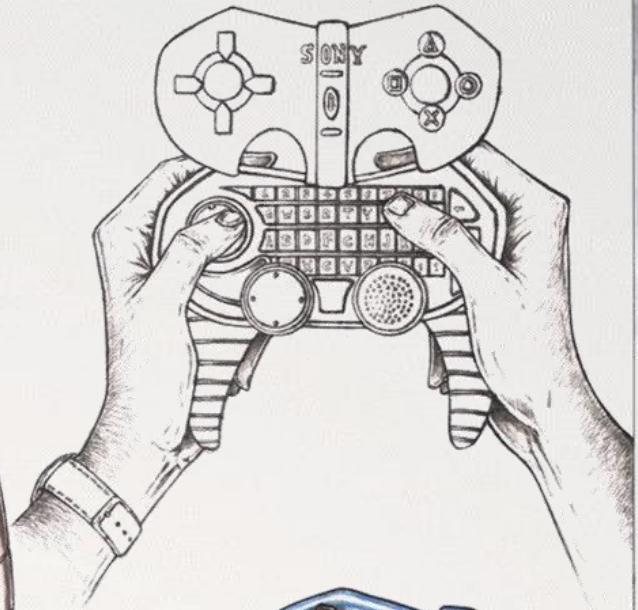
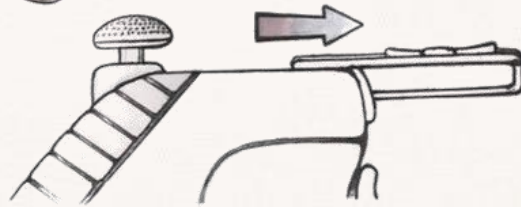








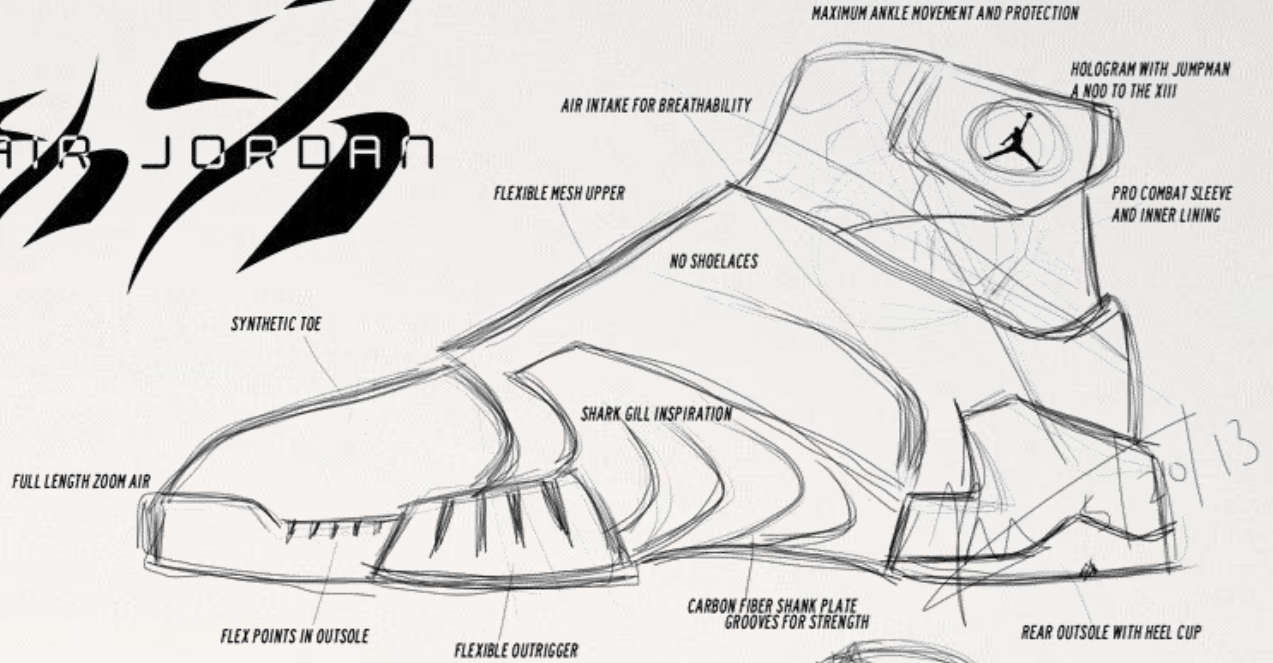
  
PlayStation™







# AIR JORDAN

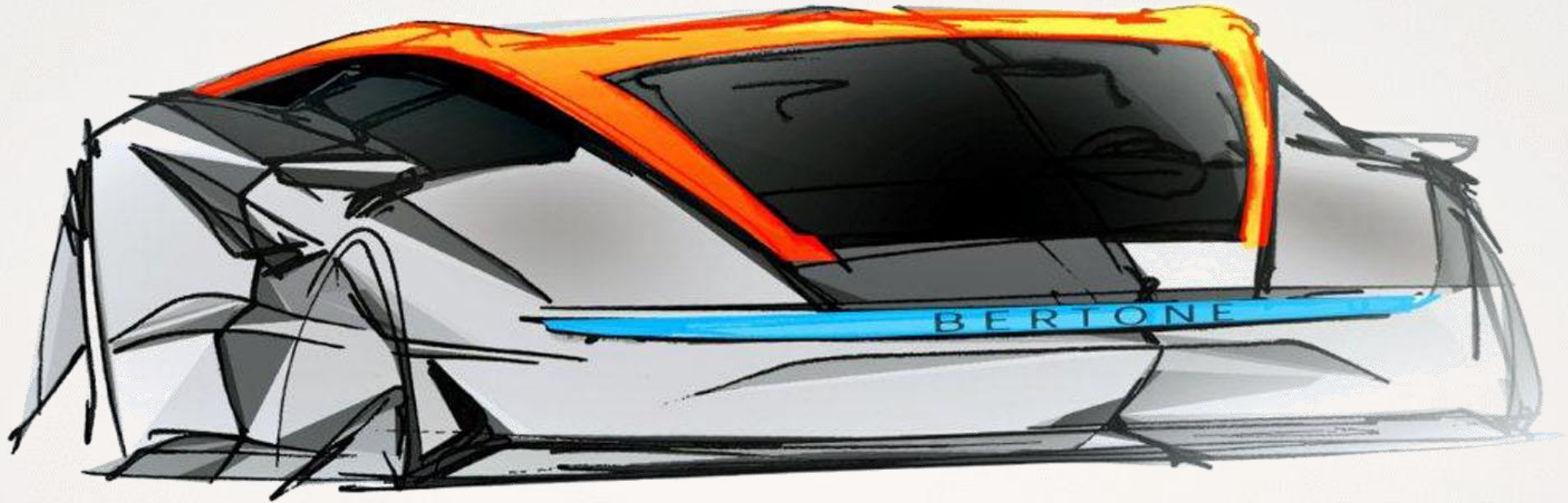






**BERTONE**  
100 ANNI 1912-2012

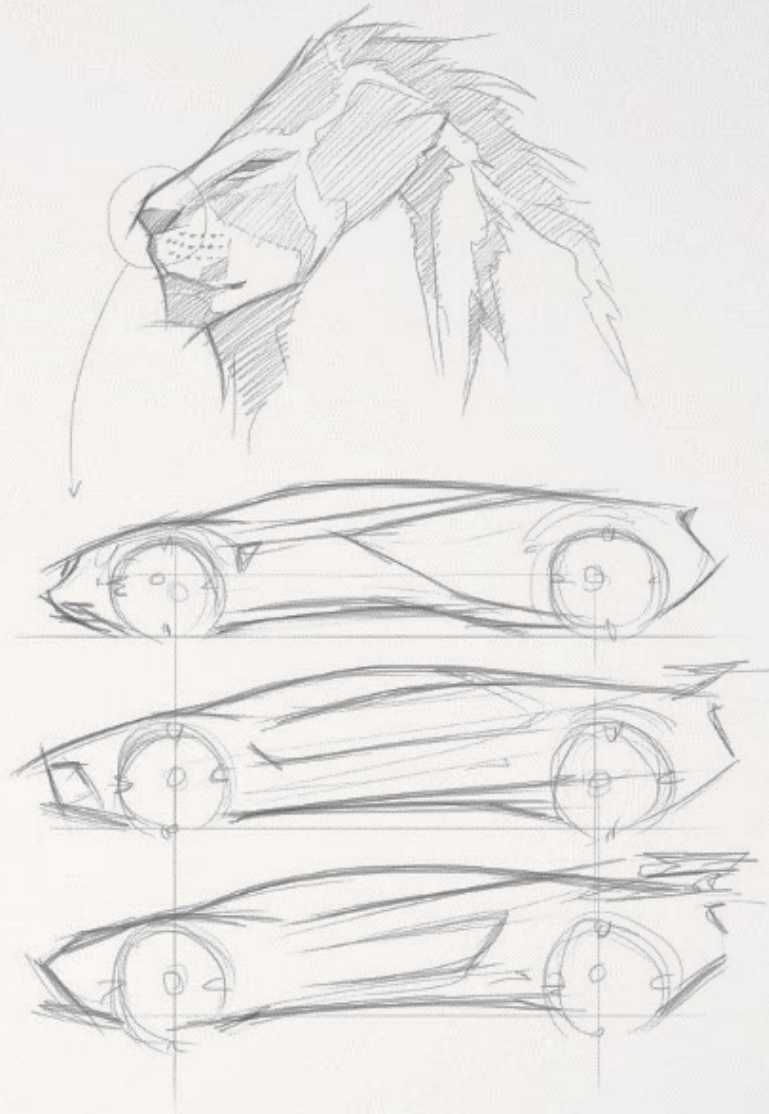
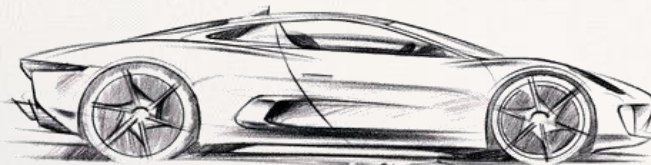
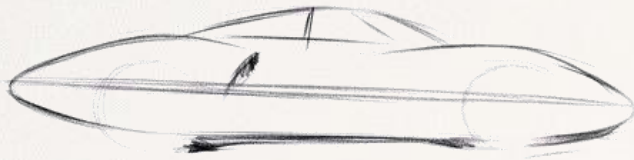
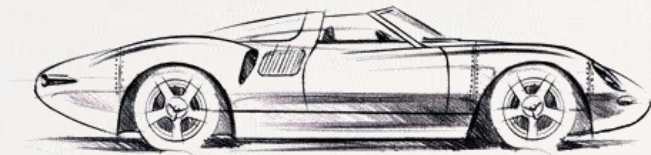
*Wuocip*



# Concepto en diseño Industrial

*Es la Idea fundamental  
de cualquier diseño*

NetCarShow.com





# Concepto en diseño Industrial

*Por que?*

*Inspirado en que?*

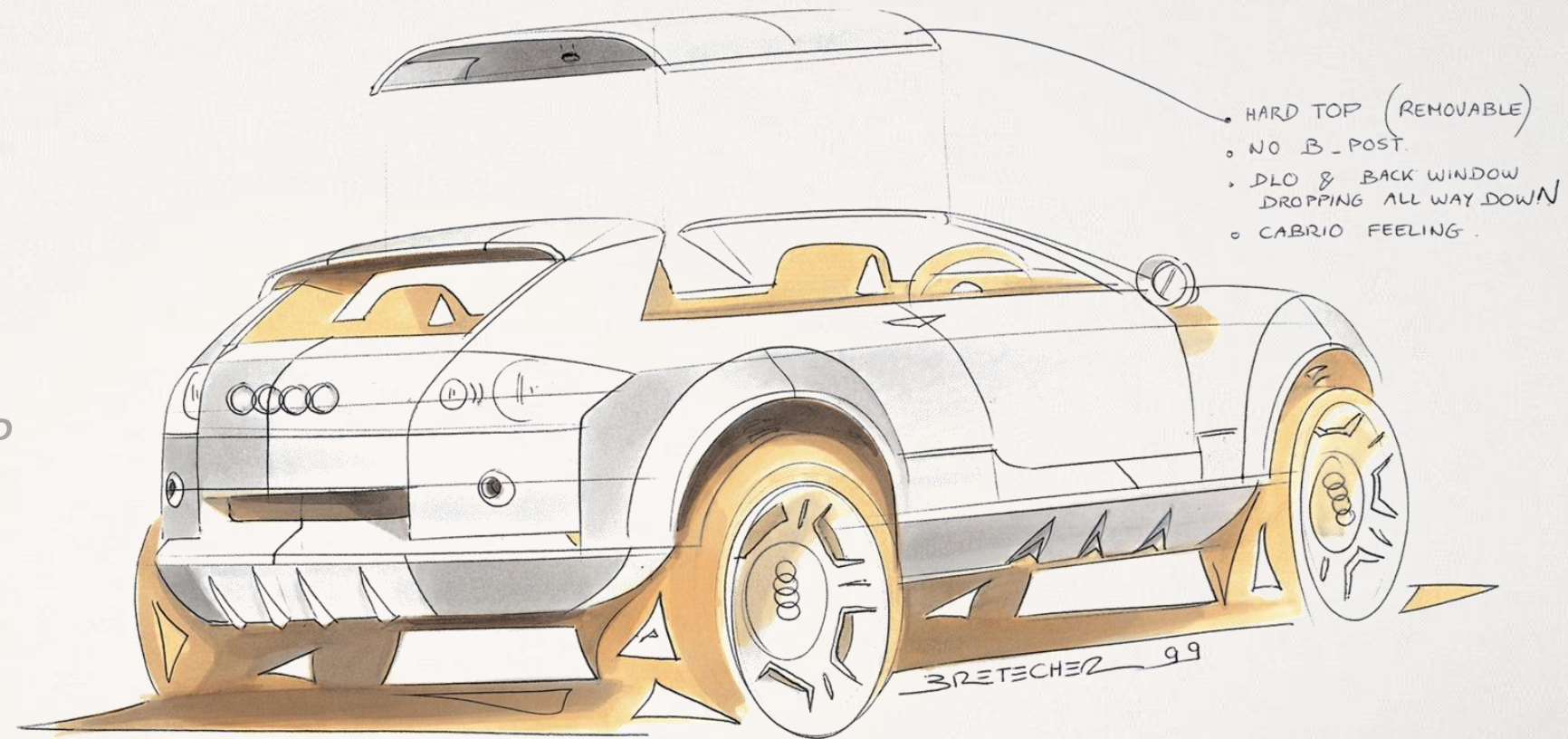
*Cual es la necesidad?*

*Qué tipo de vehículo?*

*Cuál es el público target?*

*Cuál método de fabricación?*

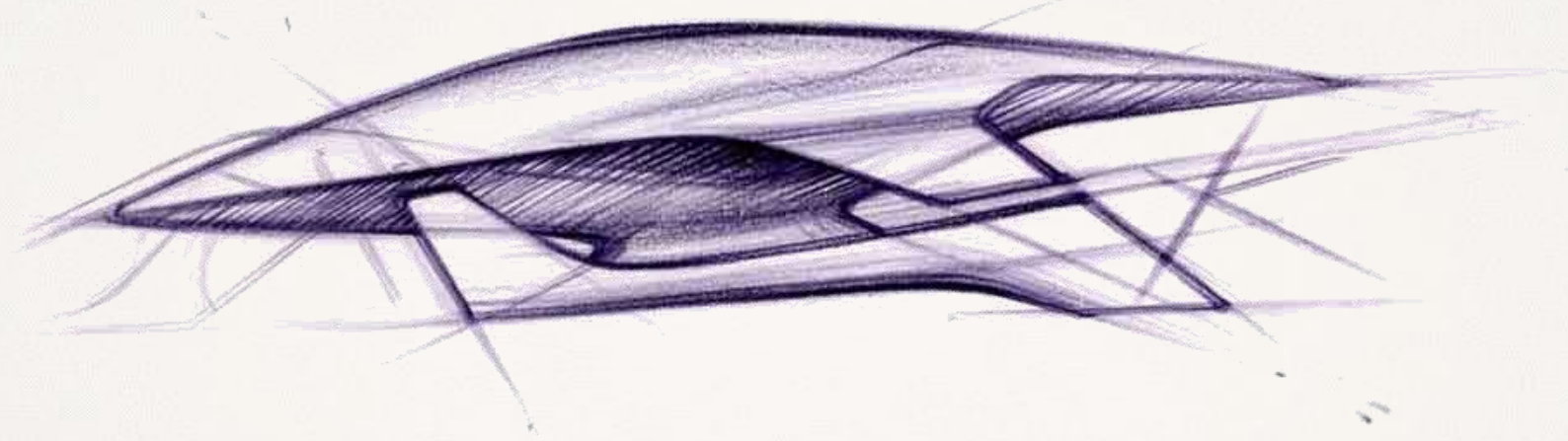
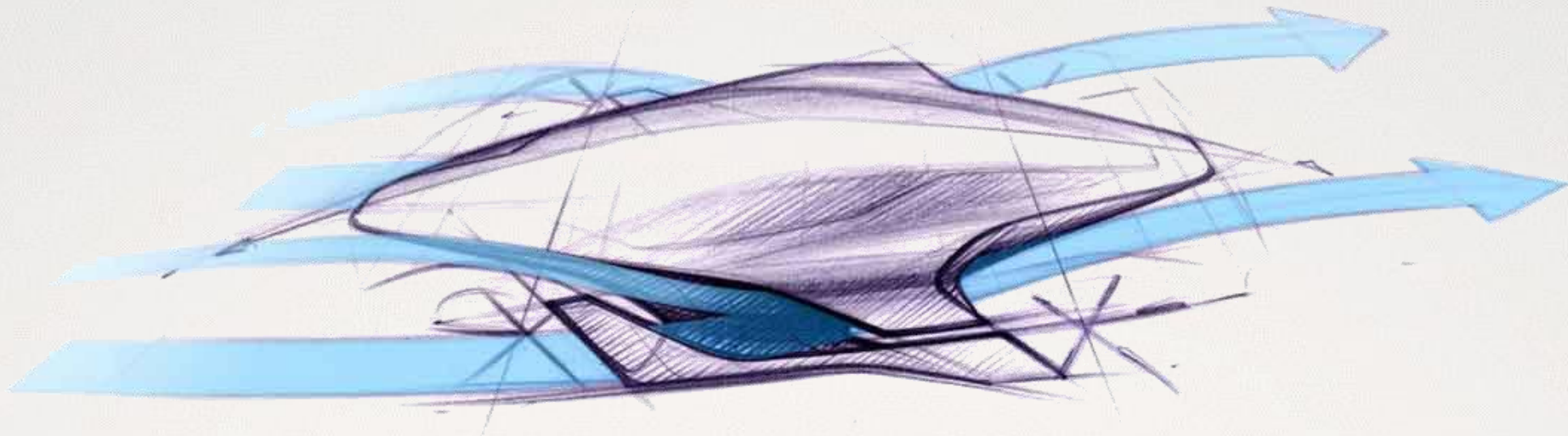
*Integración de Tecnología*



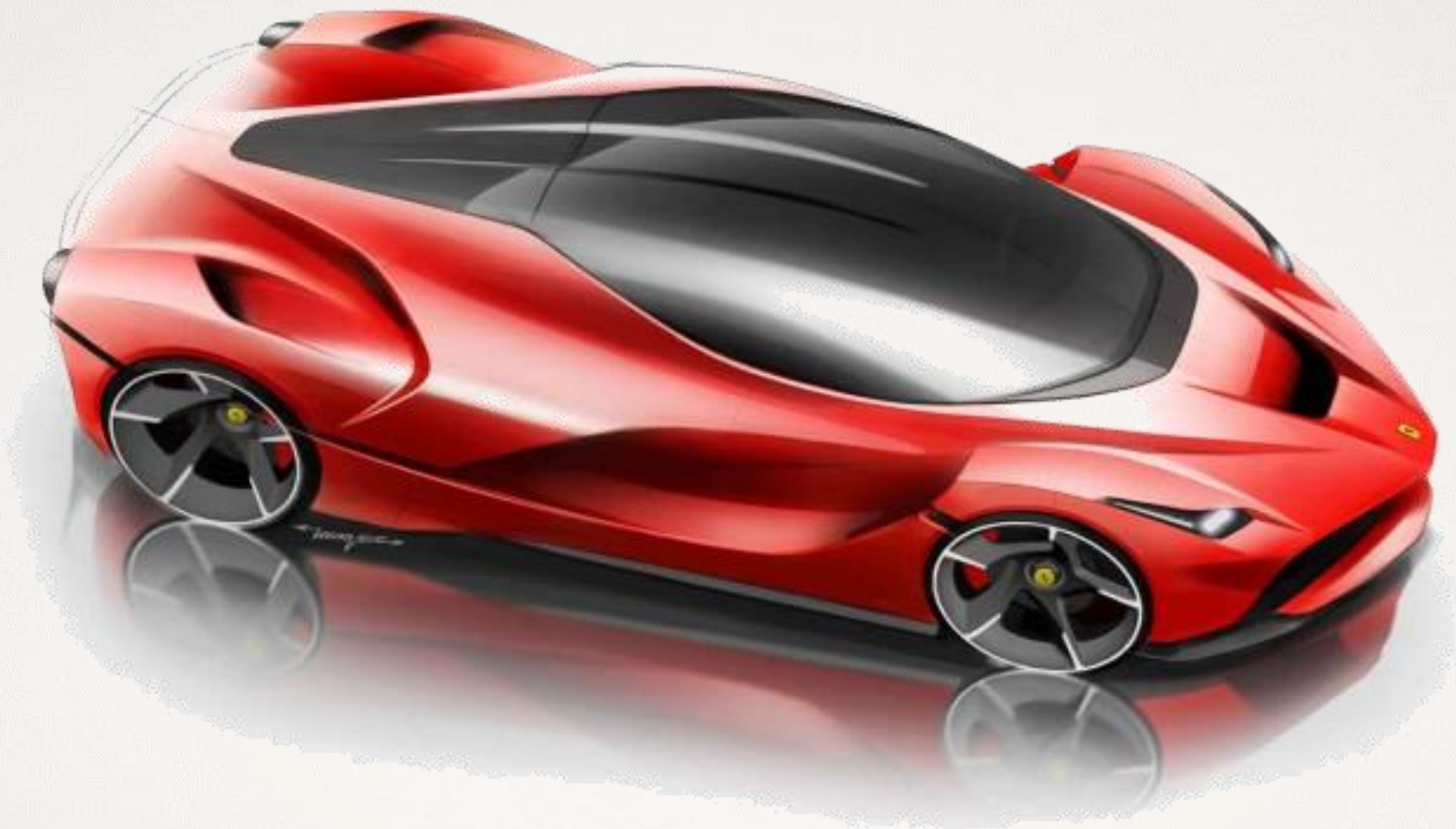
# *Concepto en diseño Industrial*

*El diseño es libre, no hay límites, excepto los  
que uno mismo se coloque.  
Solo hay dos reglas básicas:  
Proporción y perspectiva*



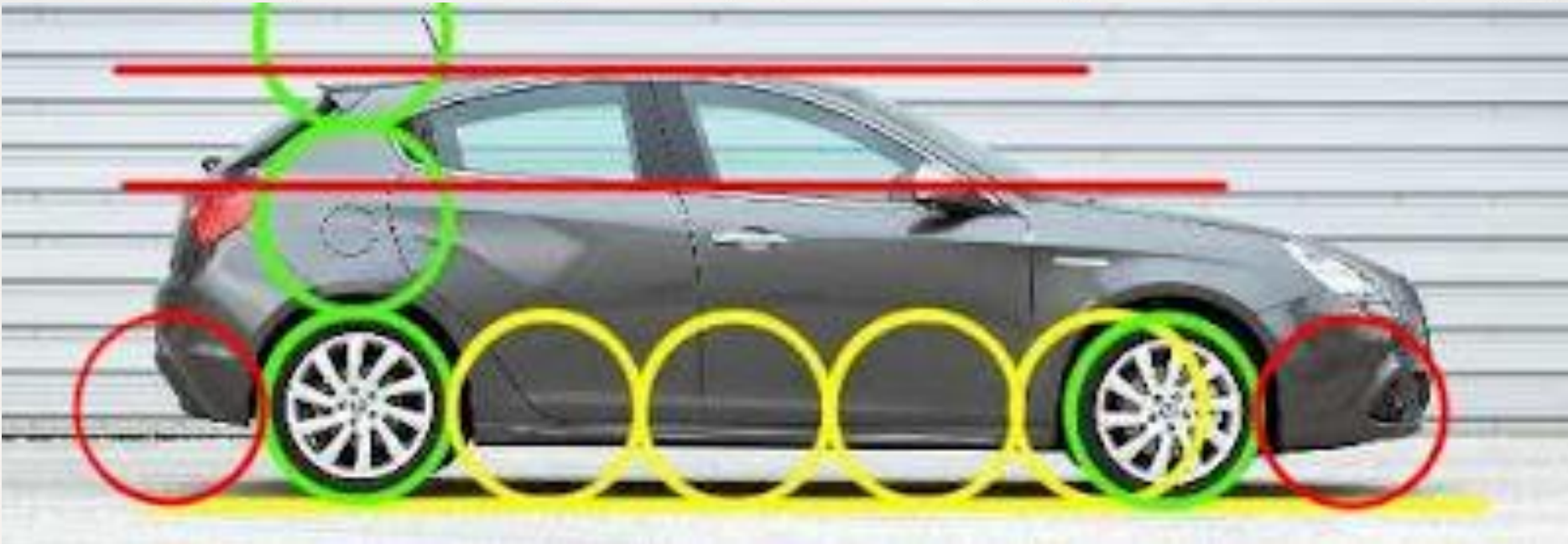


Ferrari  esign





*Proporción*



*Hatchback*

# *Proporción*



*Sedan de lujo*



*Proporción*



*SuperCar*

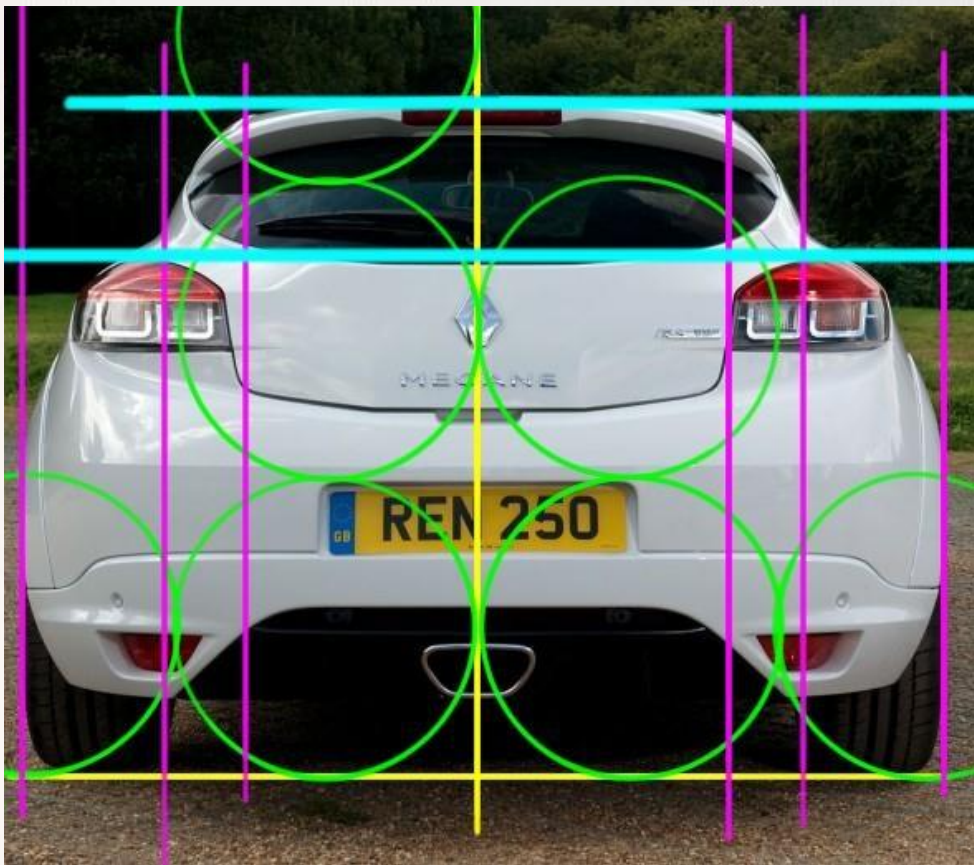
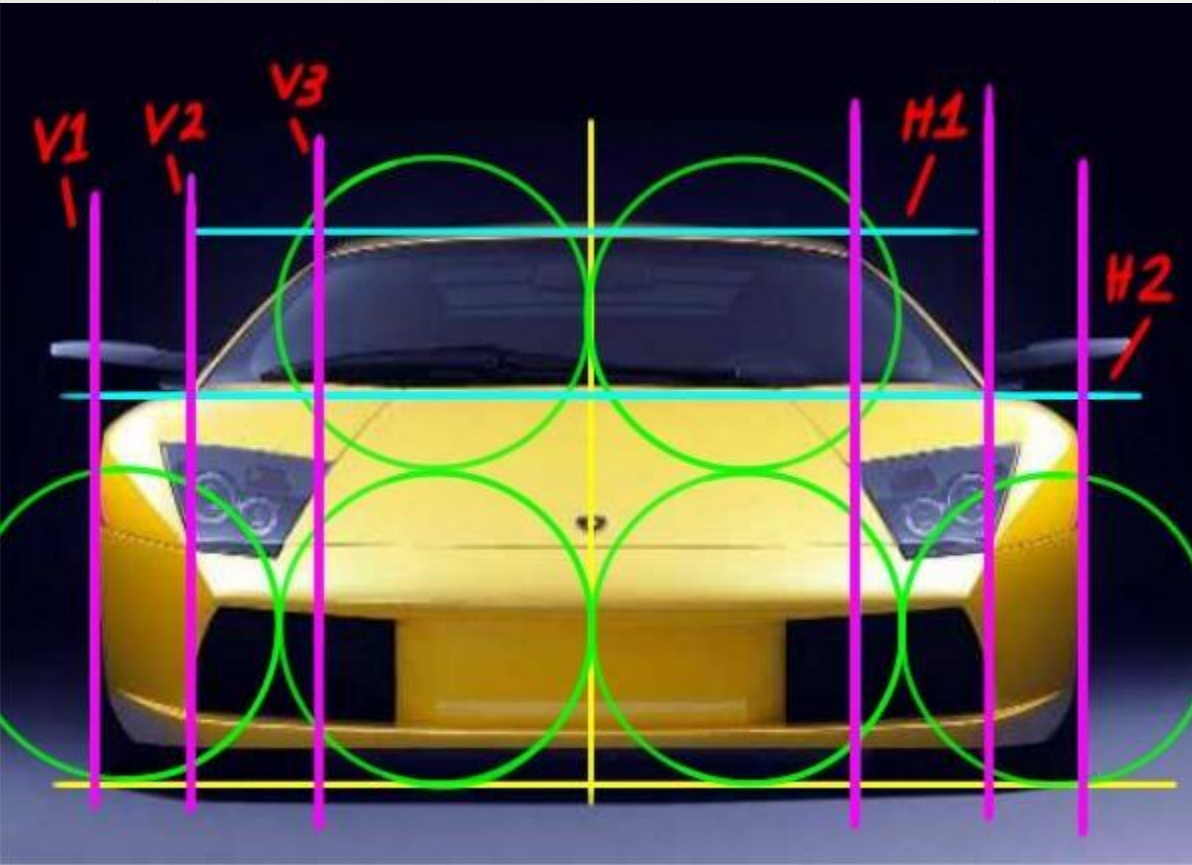
# *Proporción*



*Coupé Gran Turismo*



# Proporción

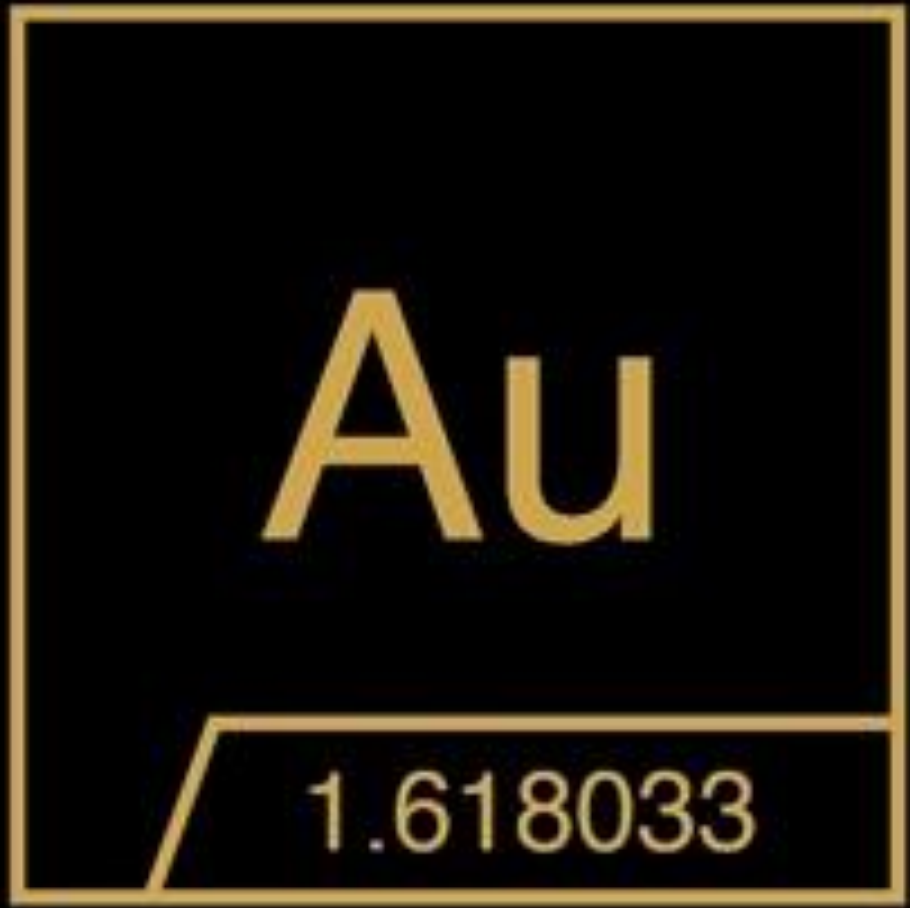




*El Código de la Proporción*

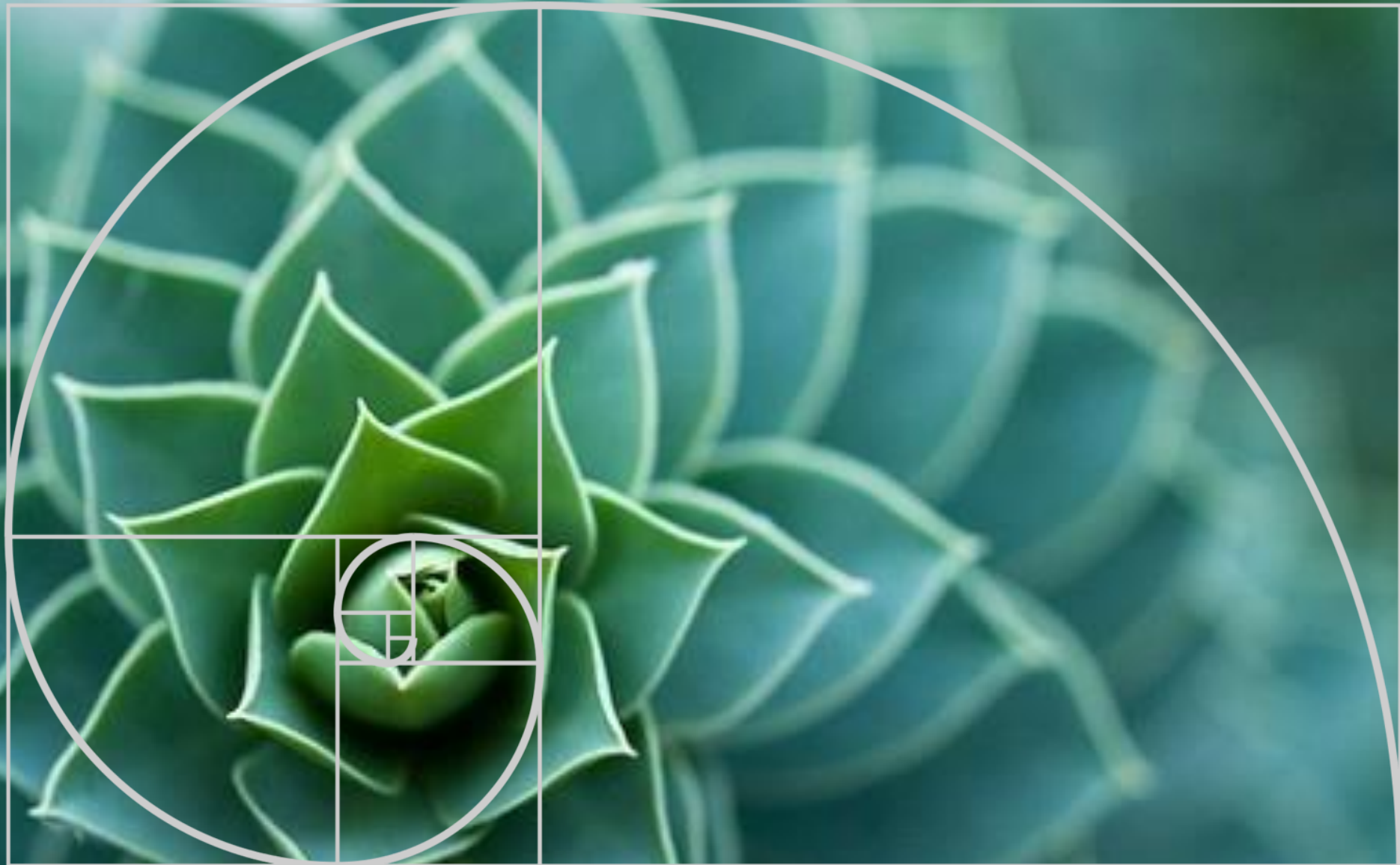


*Proporción Áurea*



1-1-2-3-5-8-13-21-34-55-89-144

*Fibonacci*



*Fibonacci*





*Fibonacci*



# *Proporción Áurea*



*Fibonacci*

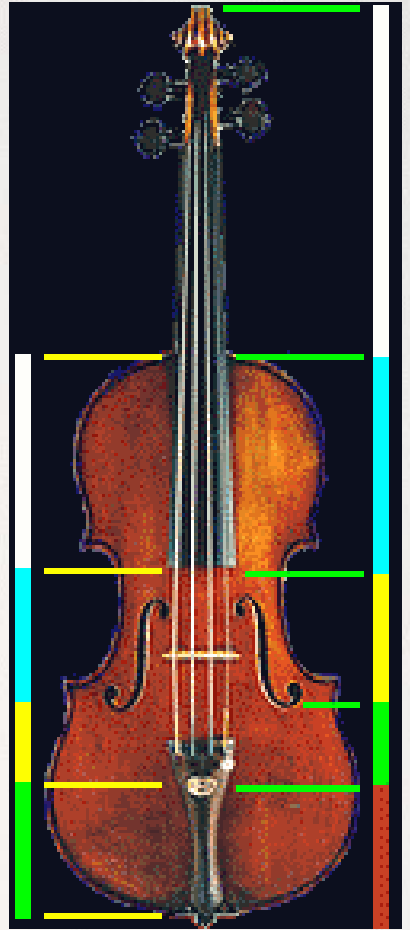
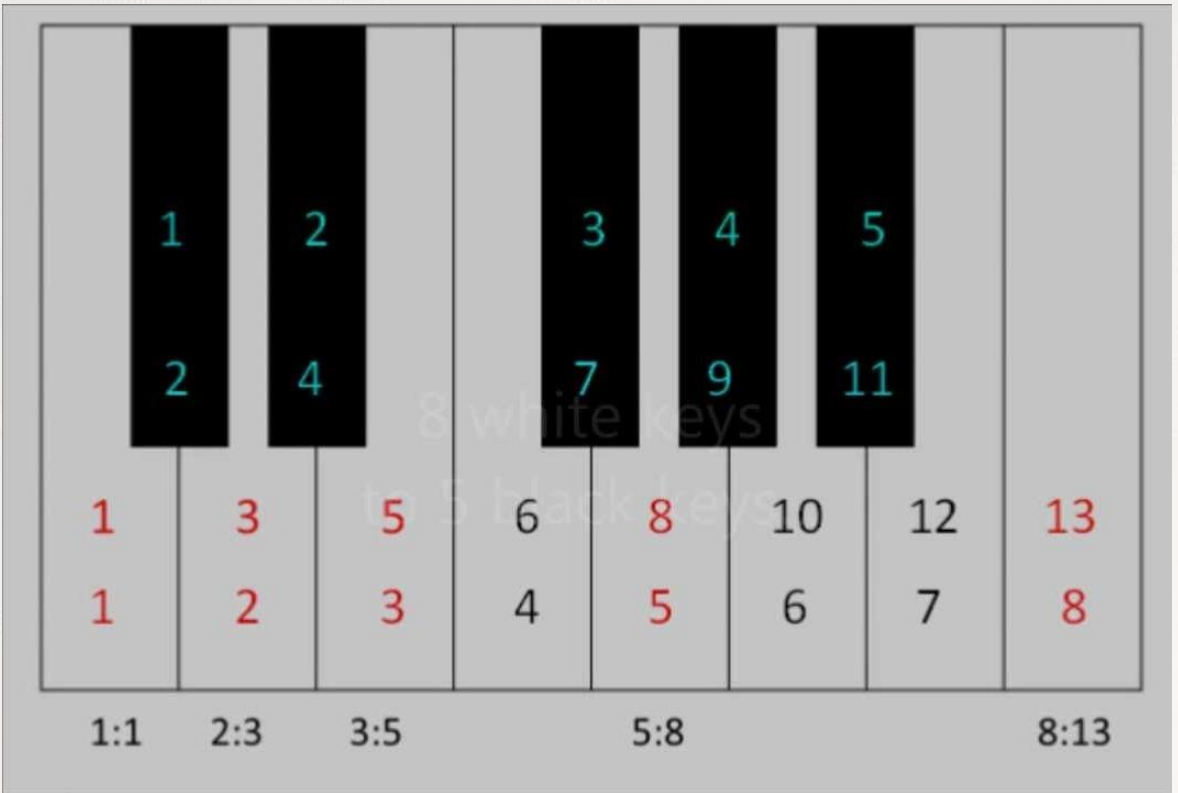


# *Proporción Áurea*



*Fibonacci*

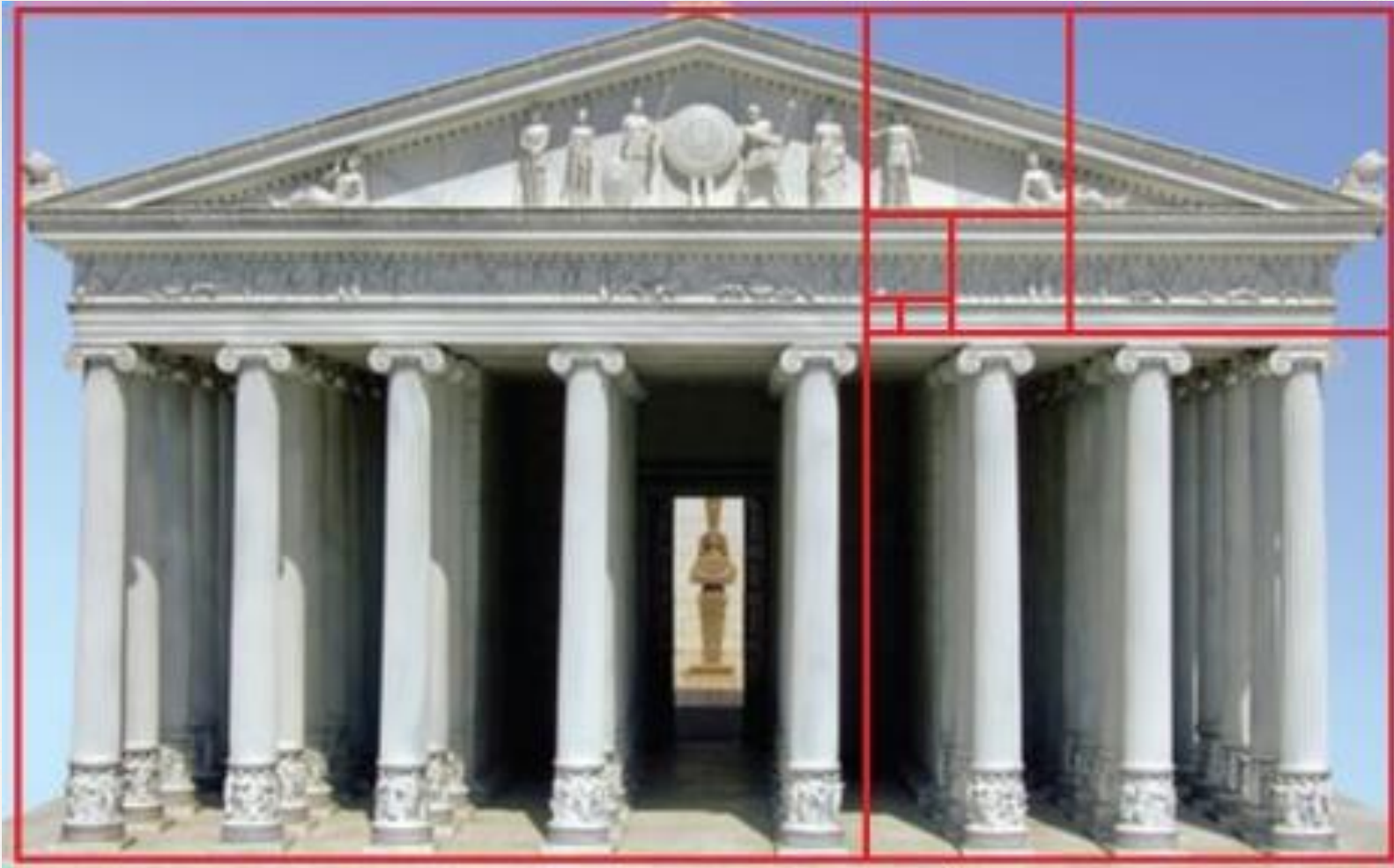
# Proporción Áurea



*Fibonacci*

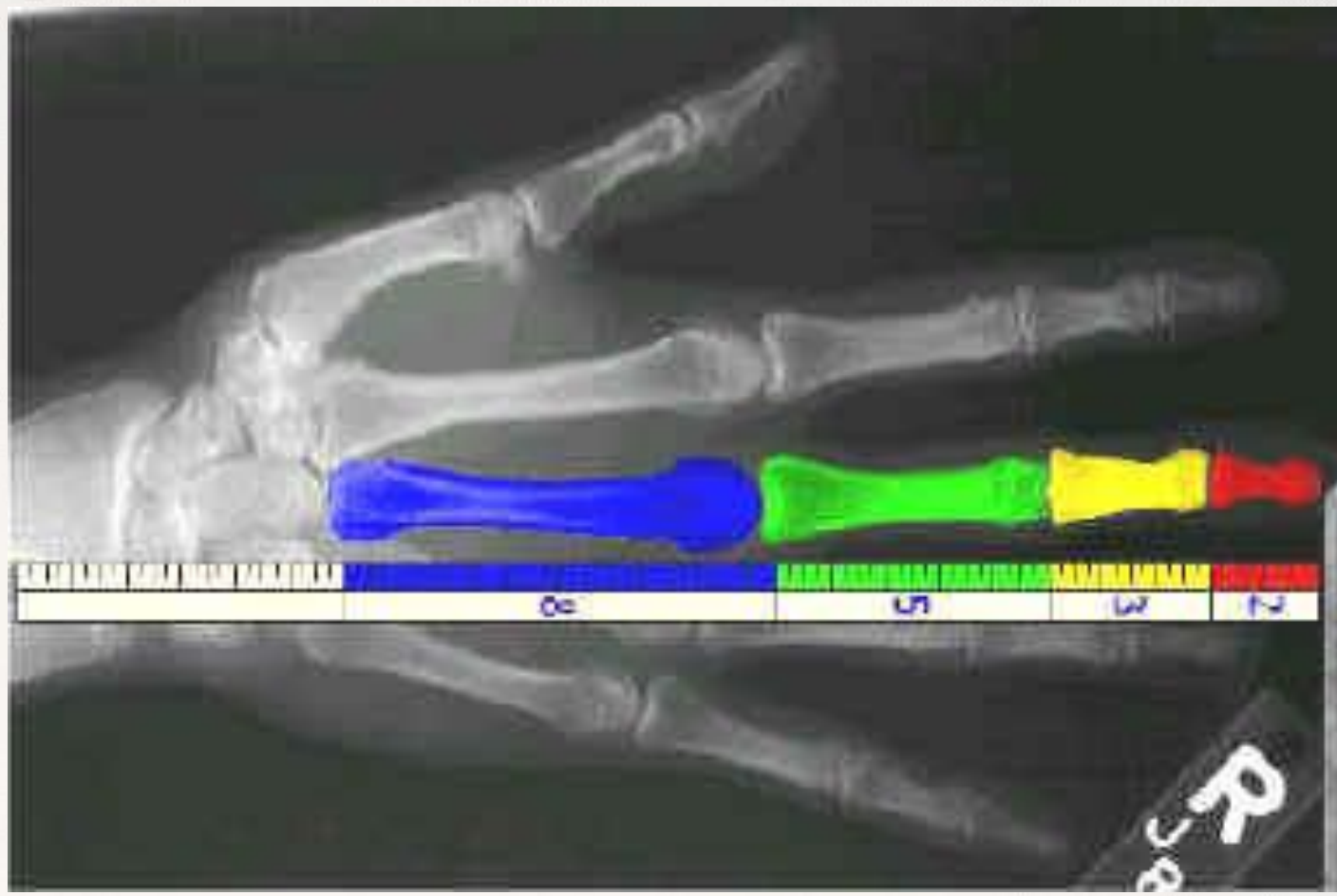
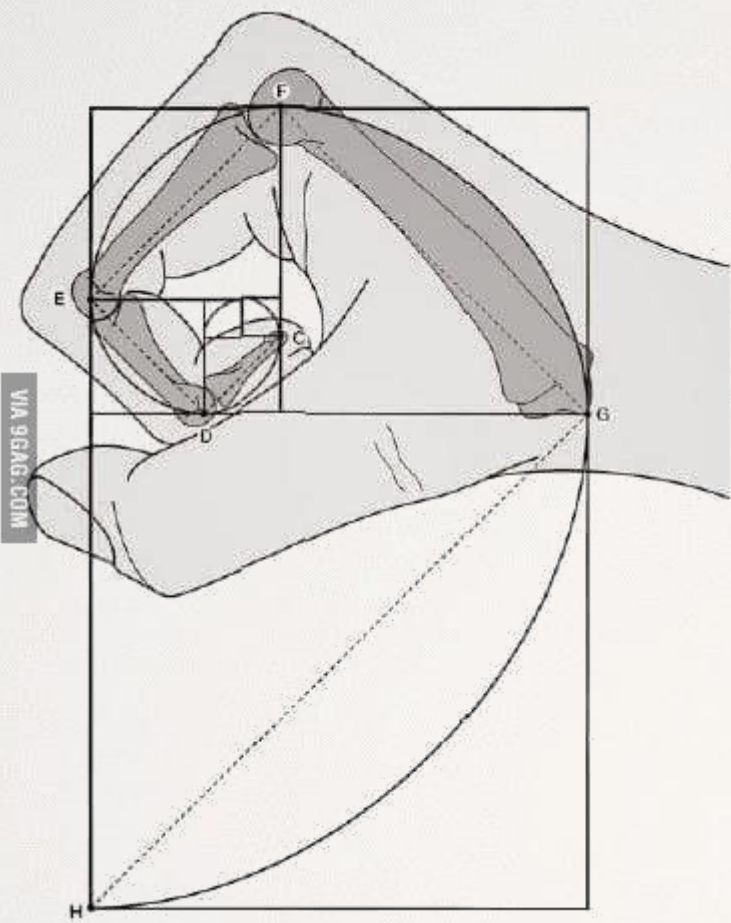


# *Proporción Áurea*



*Fibonacci*

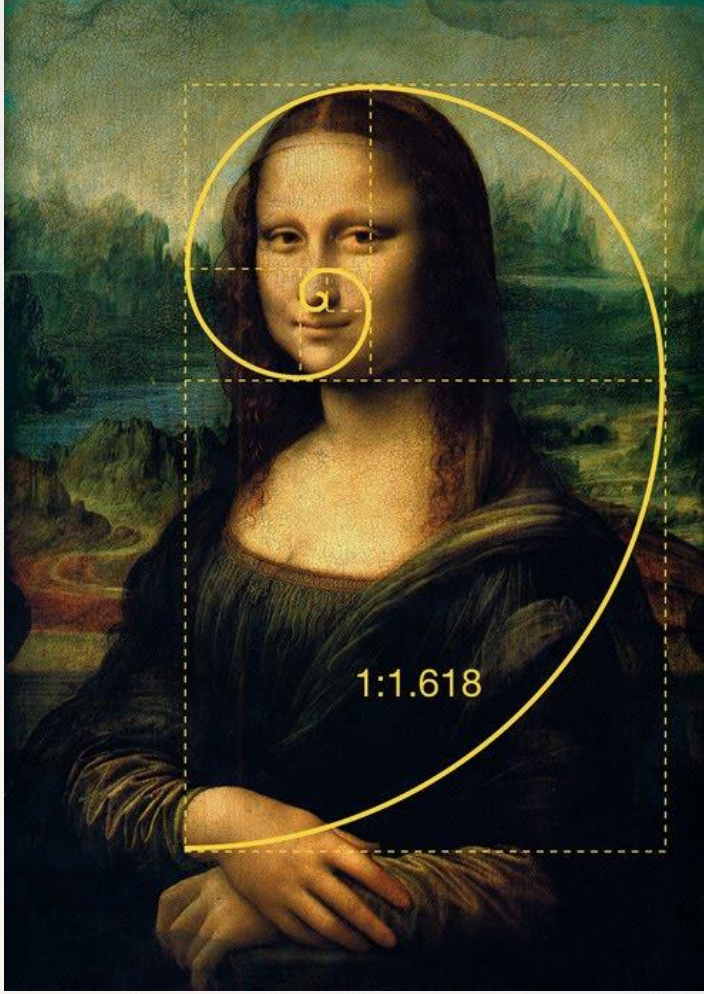
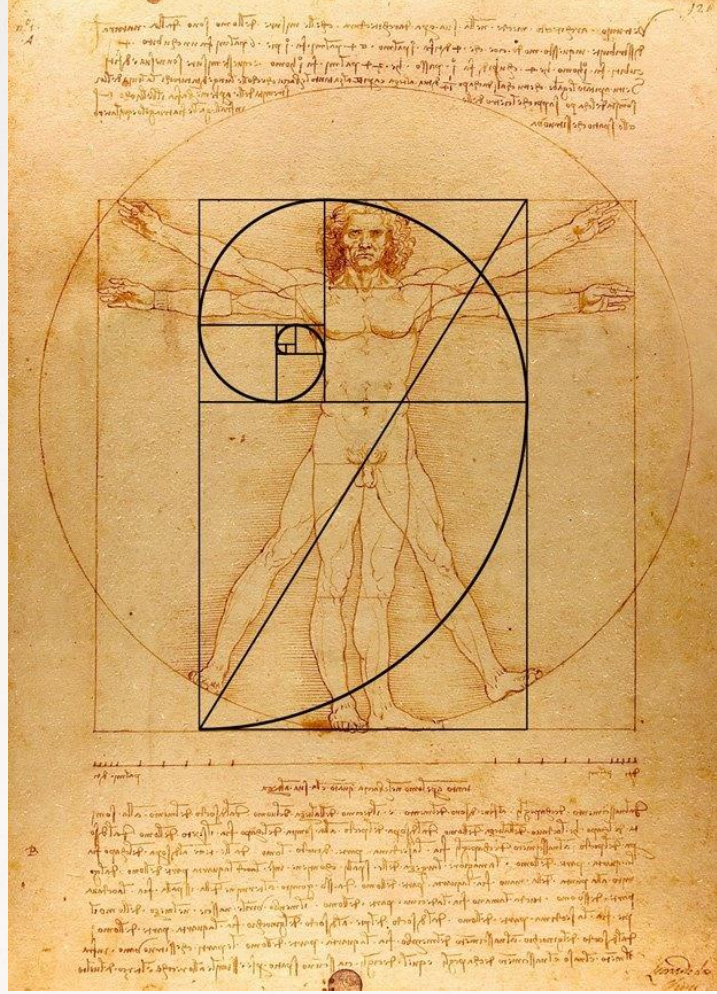
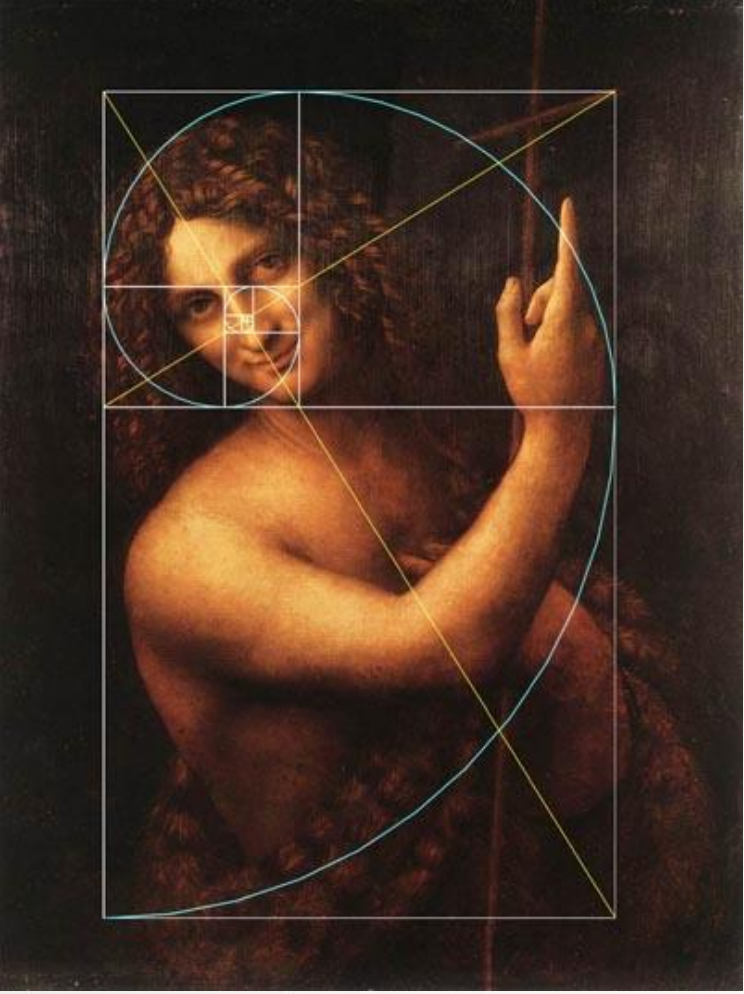
# Proporción Áurea



*Fibonacci*



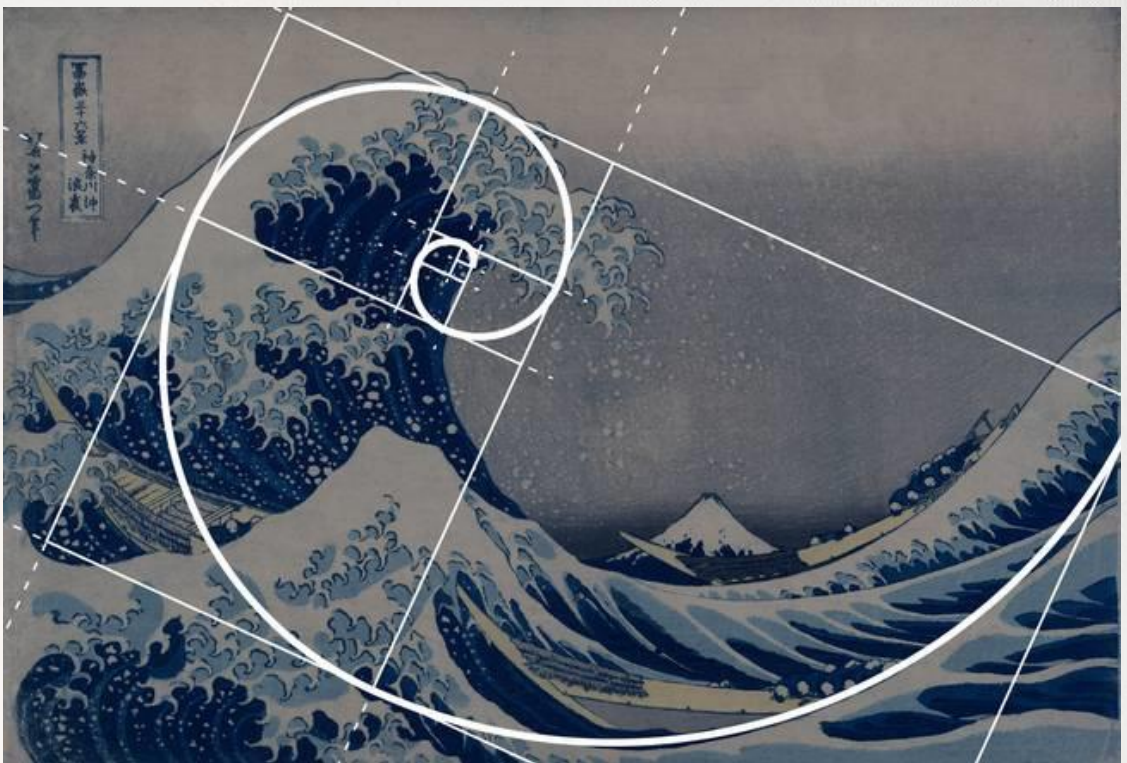
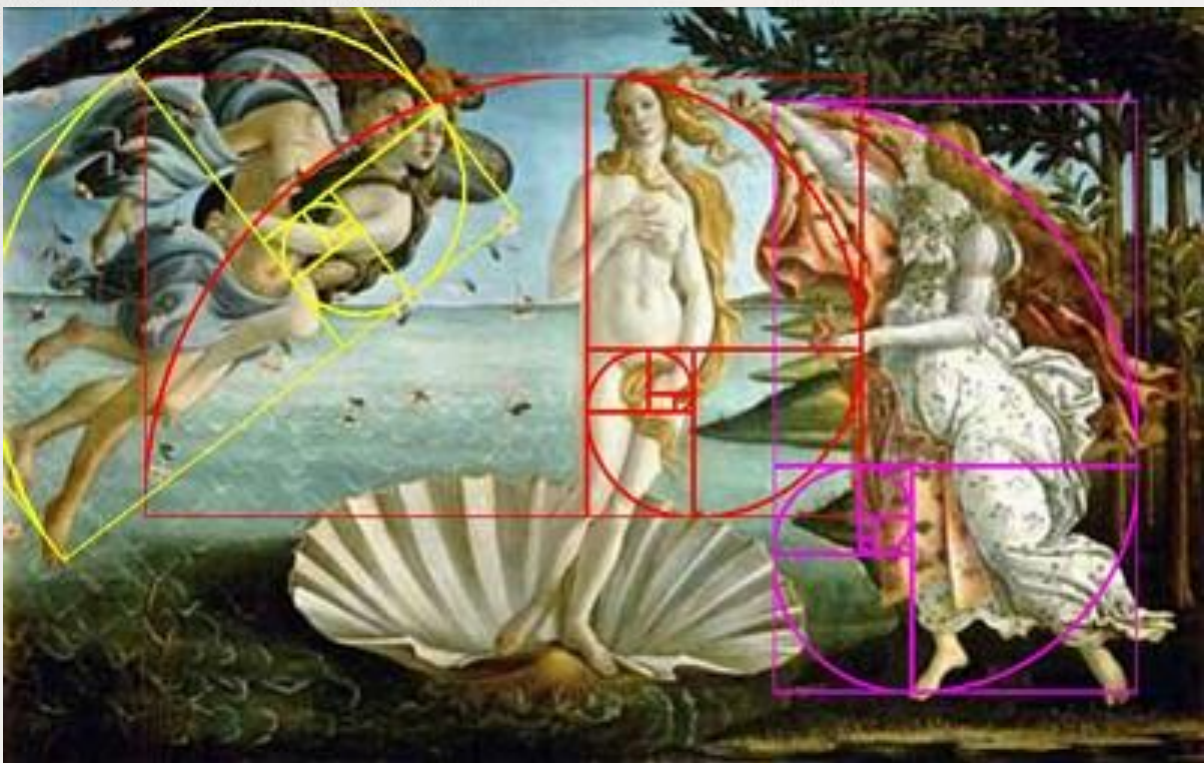
# Proporción Áurea



*Fibonacci*



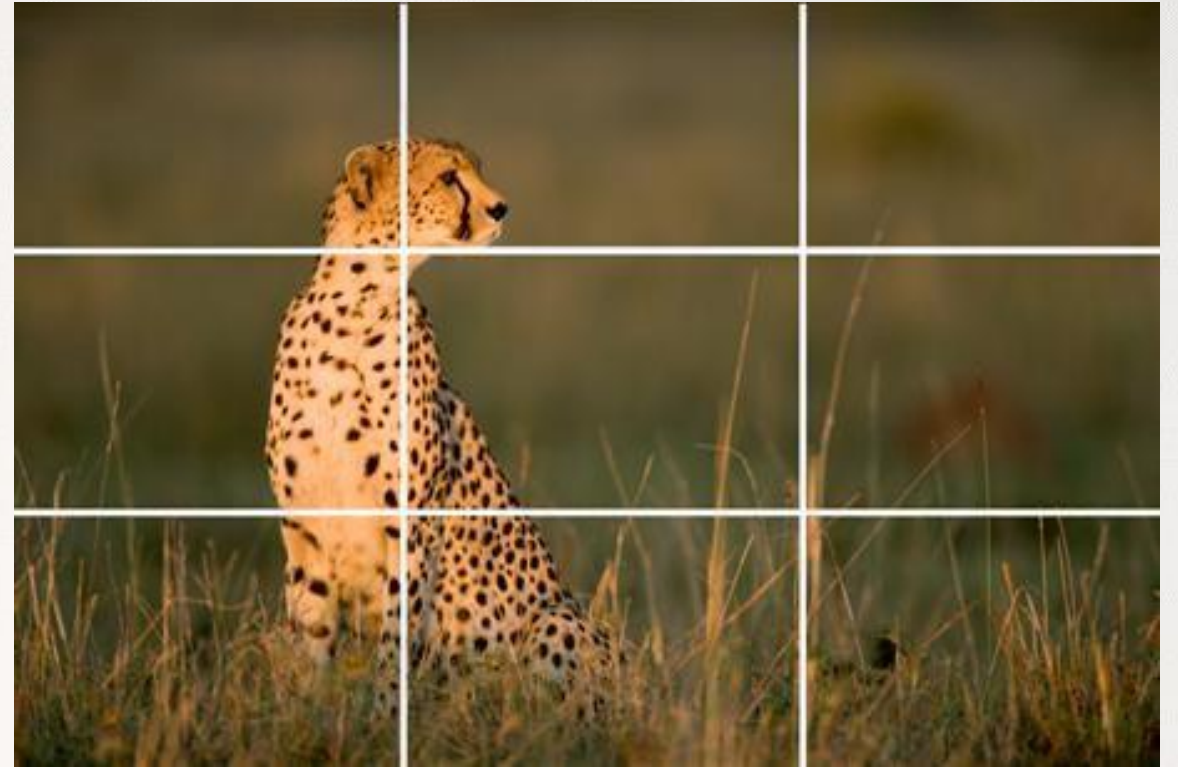
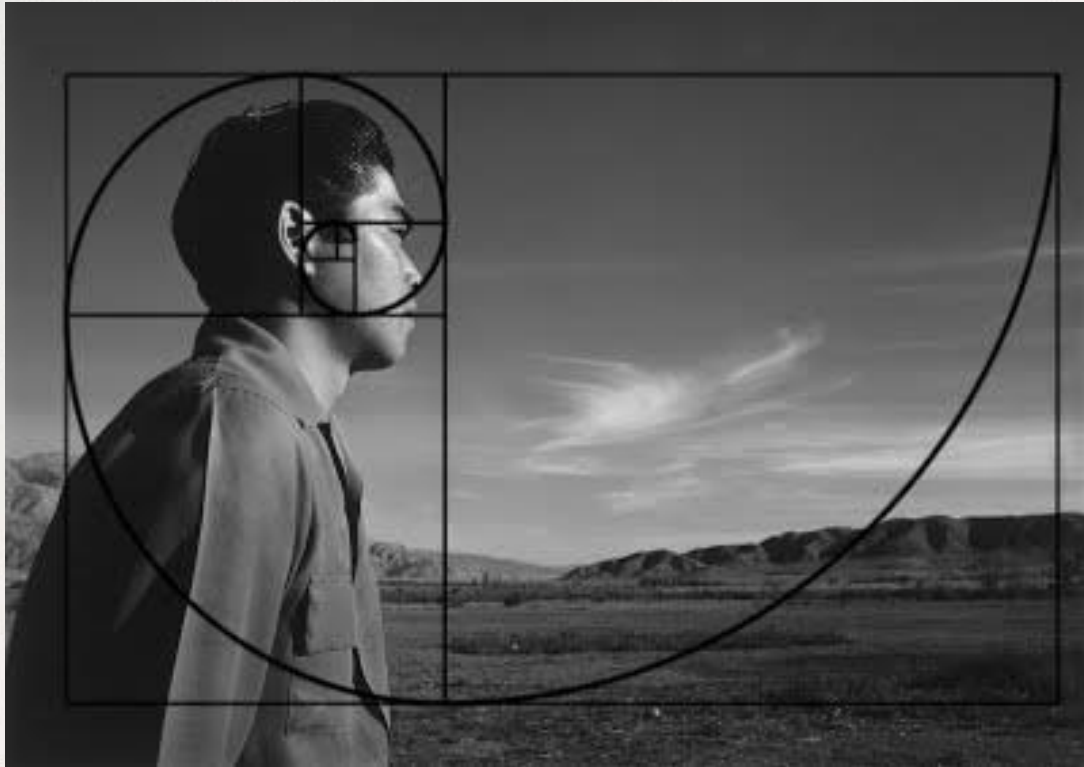
# Proporción Áurea



*Fibonacci*

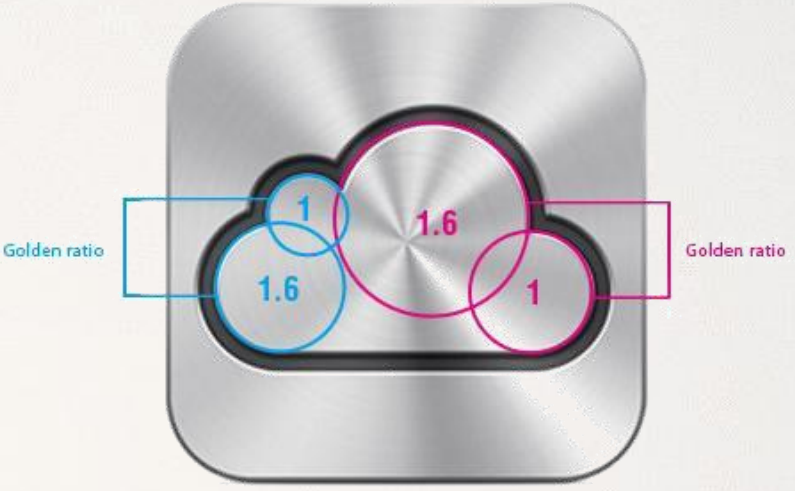
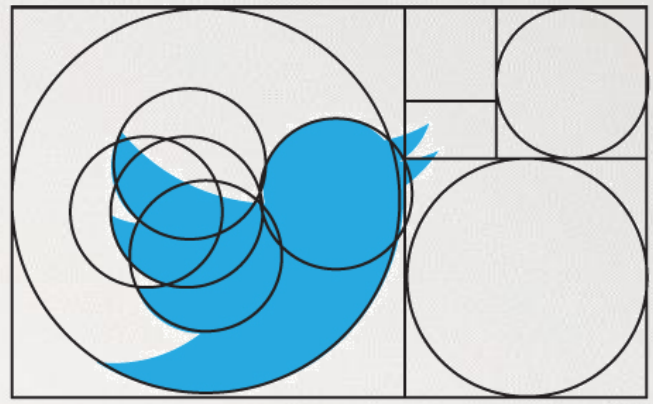
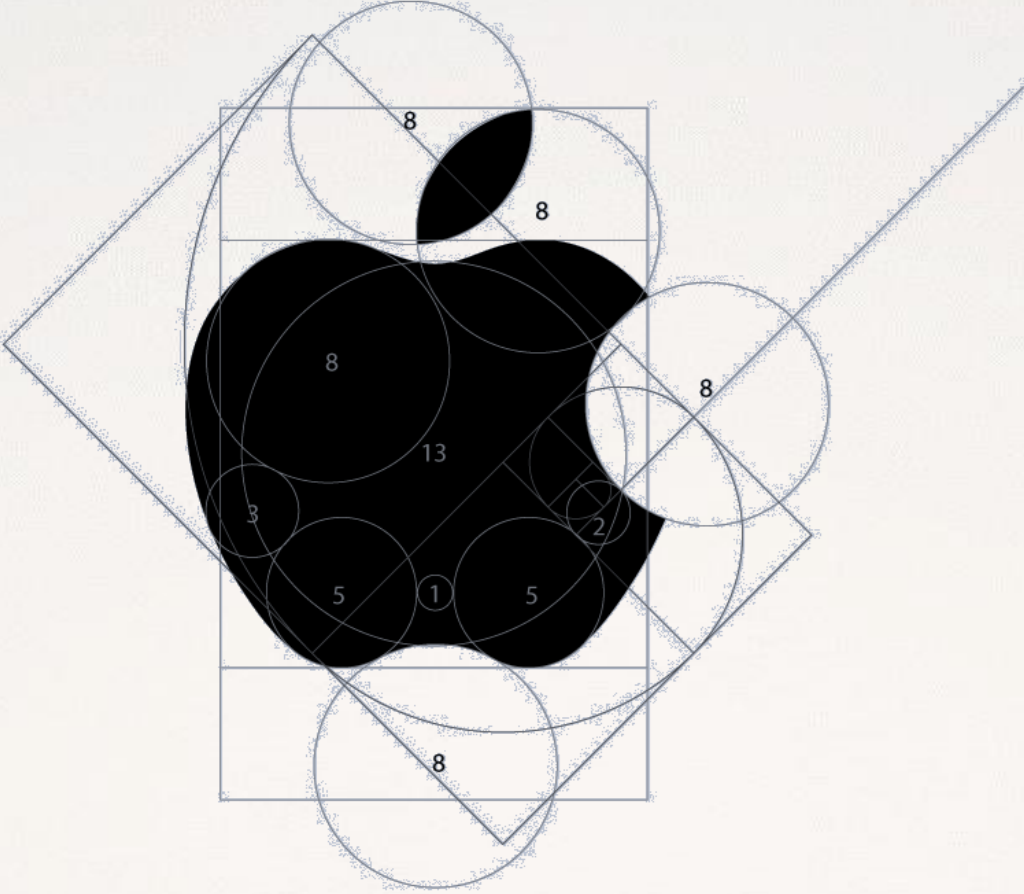
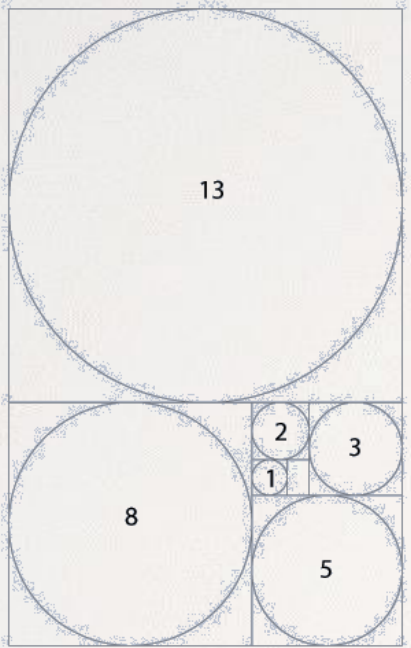


# *Proporción Áurea*



*Fibonacci*

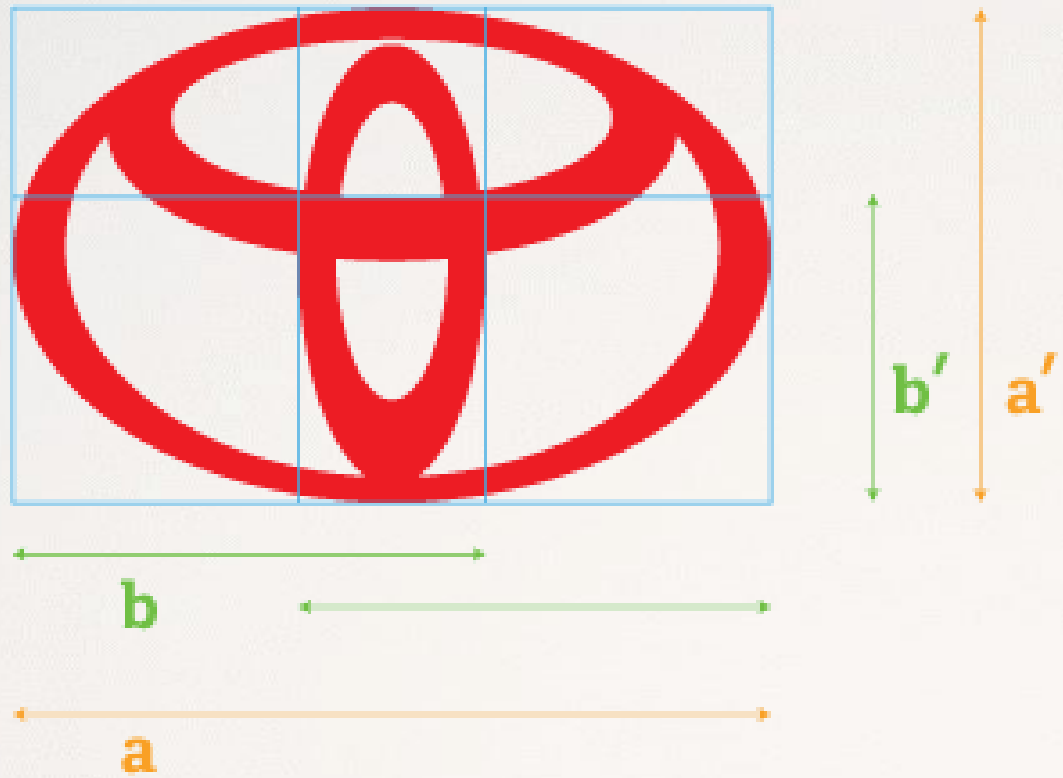
# Proporción Áurea



*Fibonacci*



# Proporción Áurea

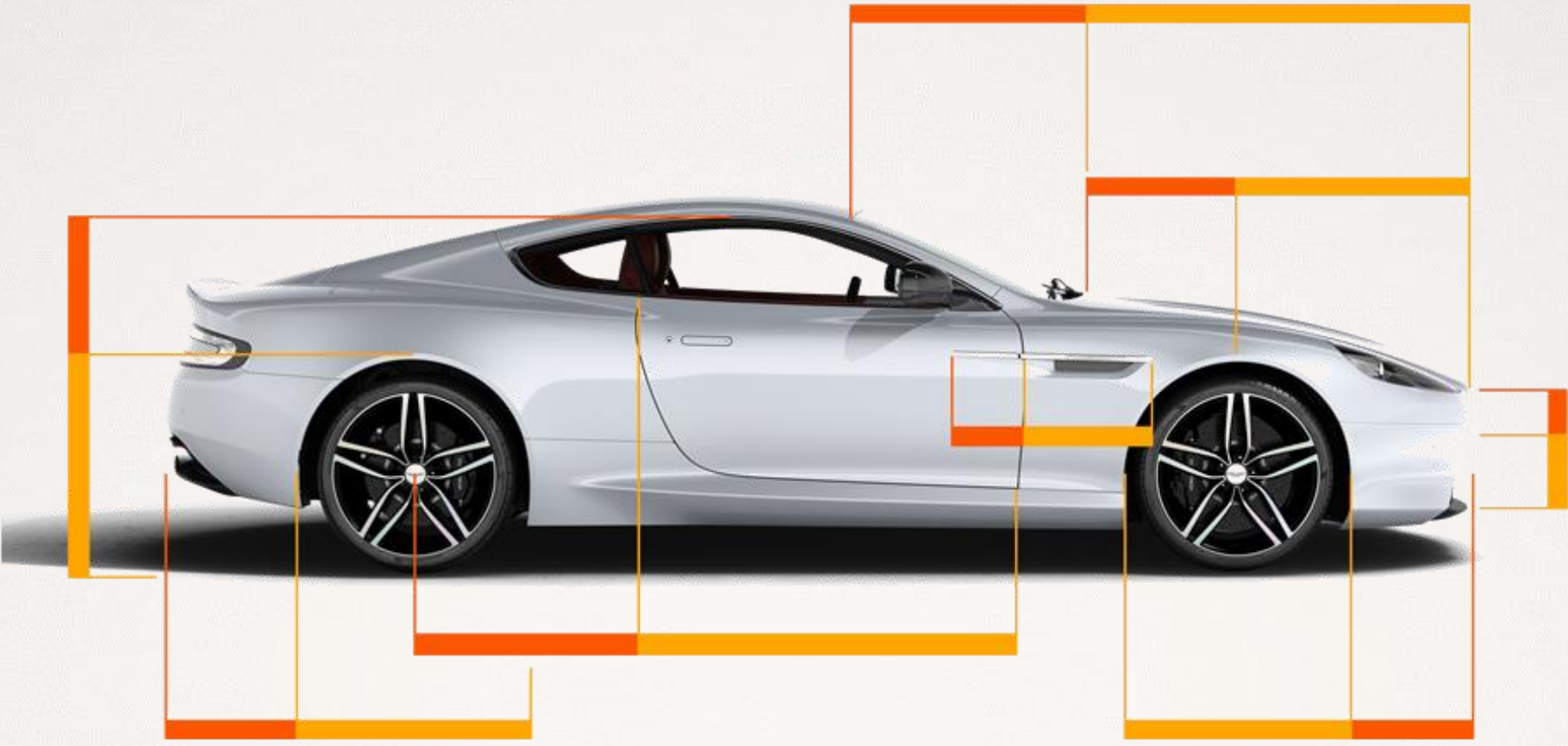


$$\frac{a}{b} = \frac{a'}{b'} = 1.618 !!!$$

**goldenratio**

*Fibonacci*

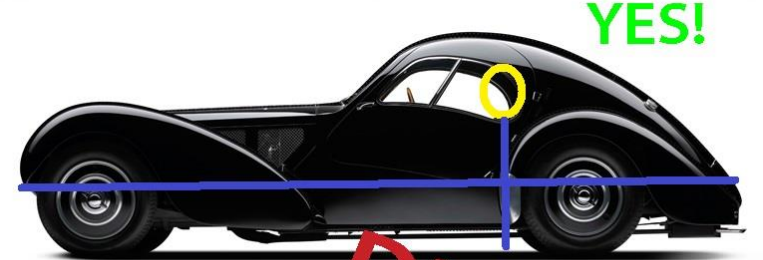
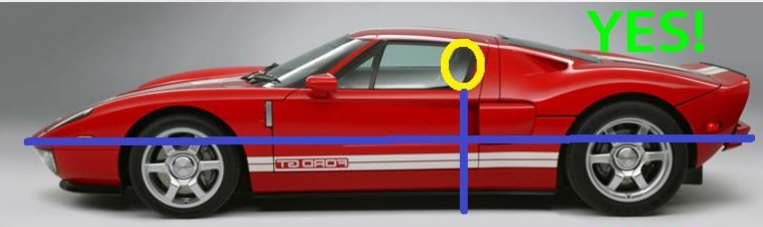
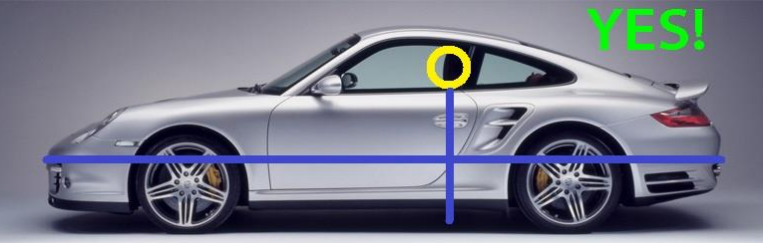
# *Proporción Áurea*



*Coupé Gran Turismo*

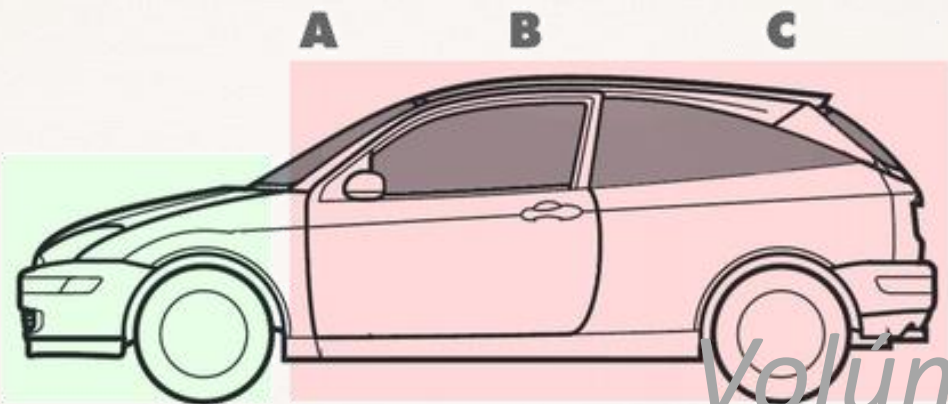
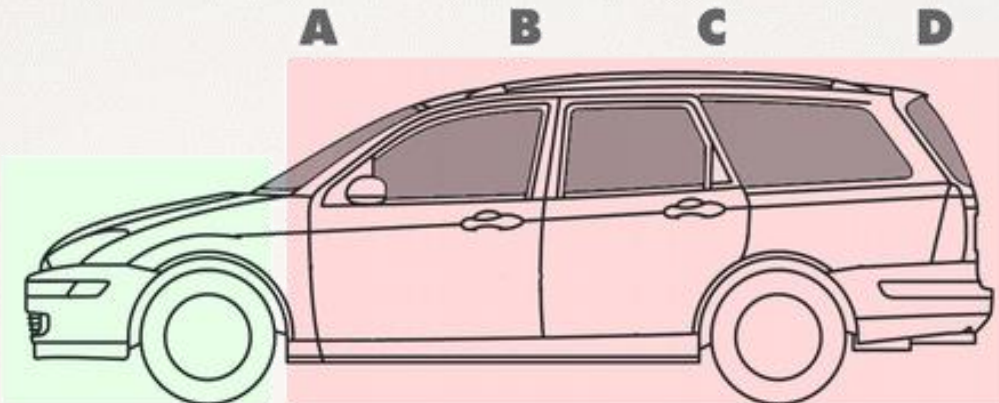
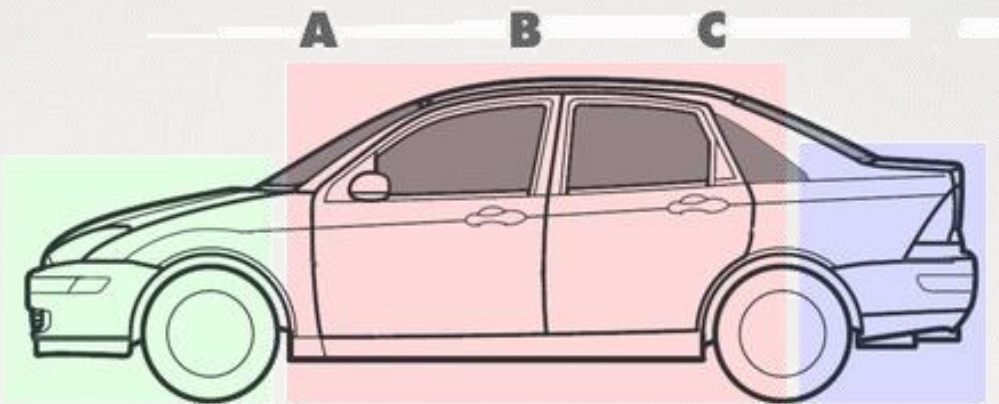


# Proporción Áurea



*Fibonacci*

# Proporción



*Volúmenes de carga*



# Perspectiva

$\frac{3}{4}$  Front (Isometria frontal en proporción 3 a 4)

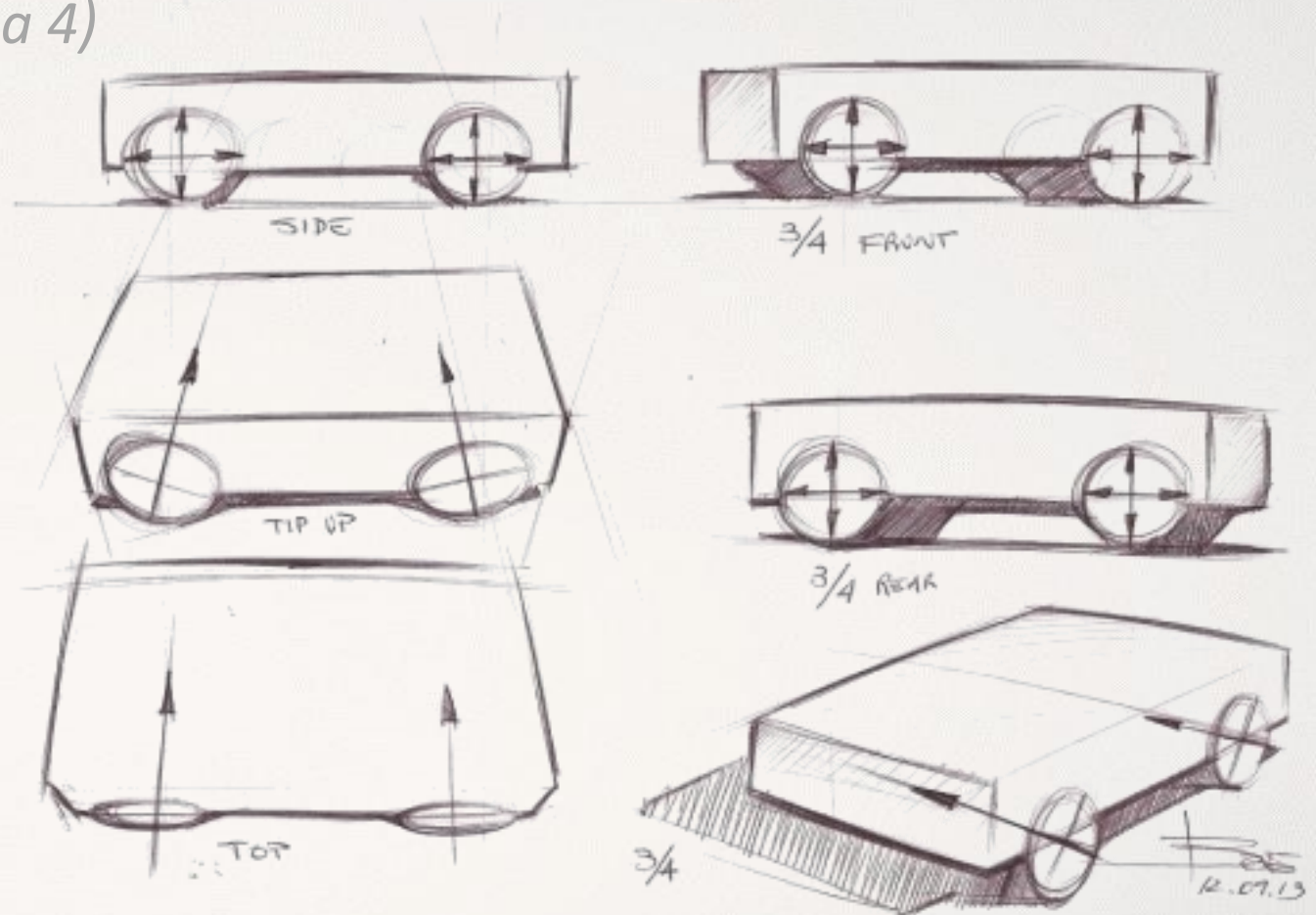
$\frac{3}{4}$  rear (Isometria frontal en proporción 3 a 4)

Side view (lateral)

Front (Frontal)

Rear (Trasera)

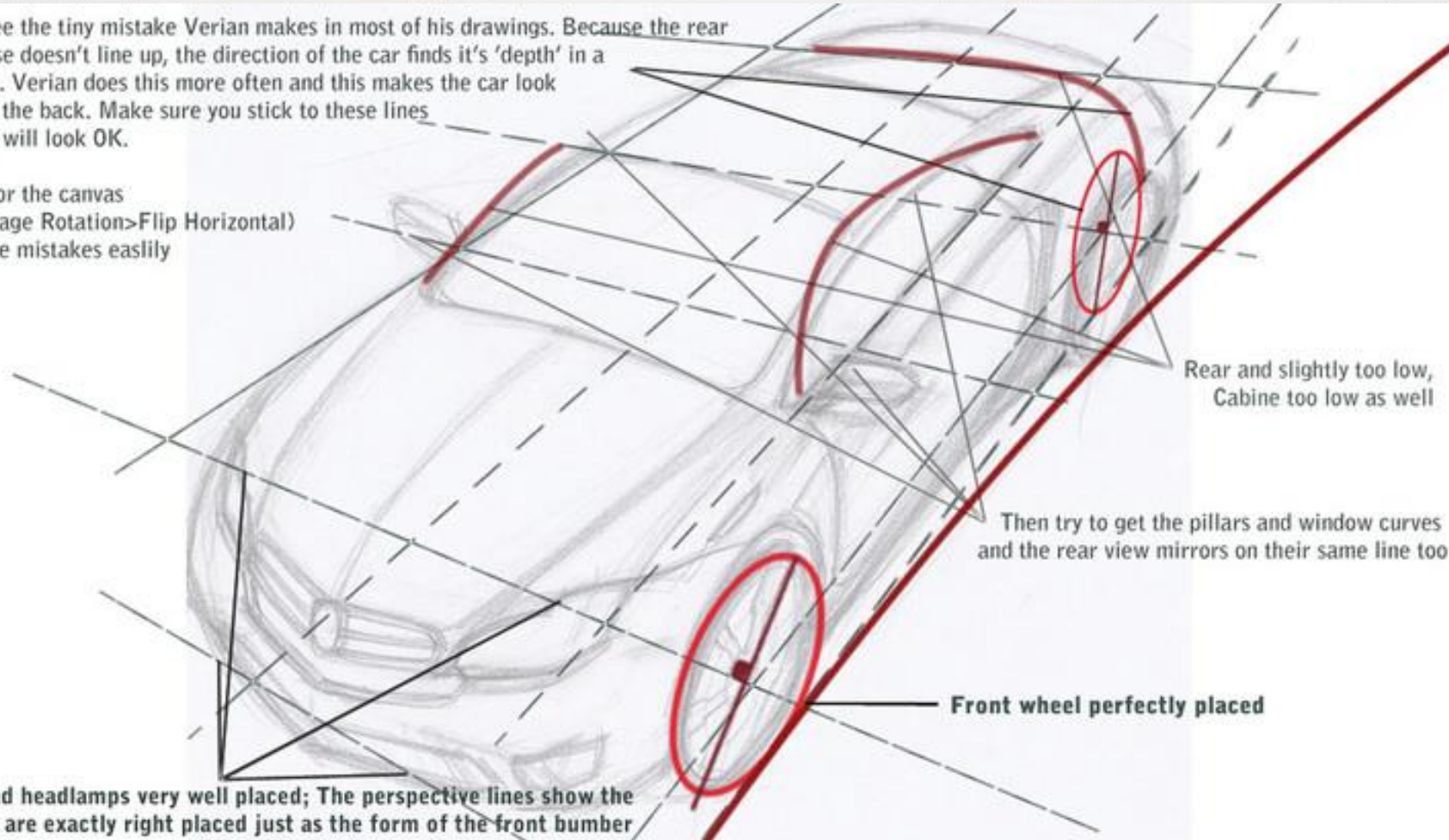
Free (Perspectiva libre)



# Perspectiva

Here you see the tiny mistake Verian makes in most of his drawings. Because the rear wheel ellipse doesn't line up, the direction of the car finds it's 'depth' in a slight curve. Verian does this more often and this makes the car look too wide at the back. Make sure you stick to these lines and the car will look OK.

Try to mirror the canvas  
(Image>Image Rotation>Flip Horizontal)  
to spot these mistakes easlily



Rear and slightly too low,  
Cabine too low as well

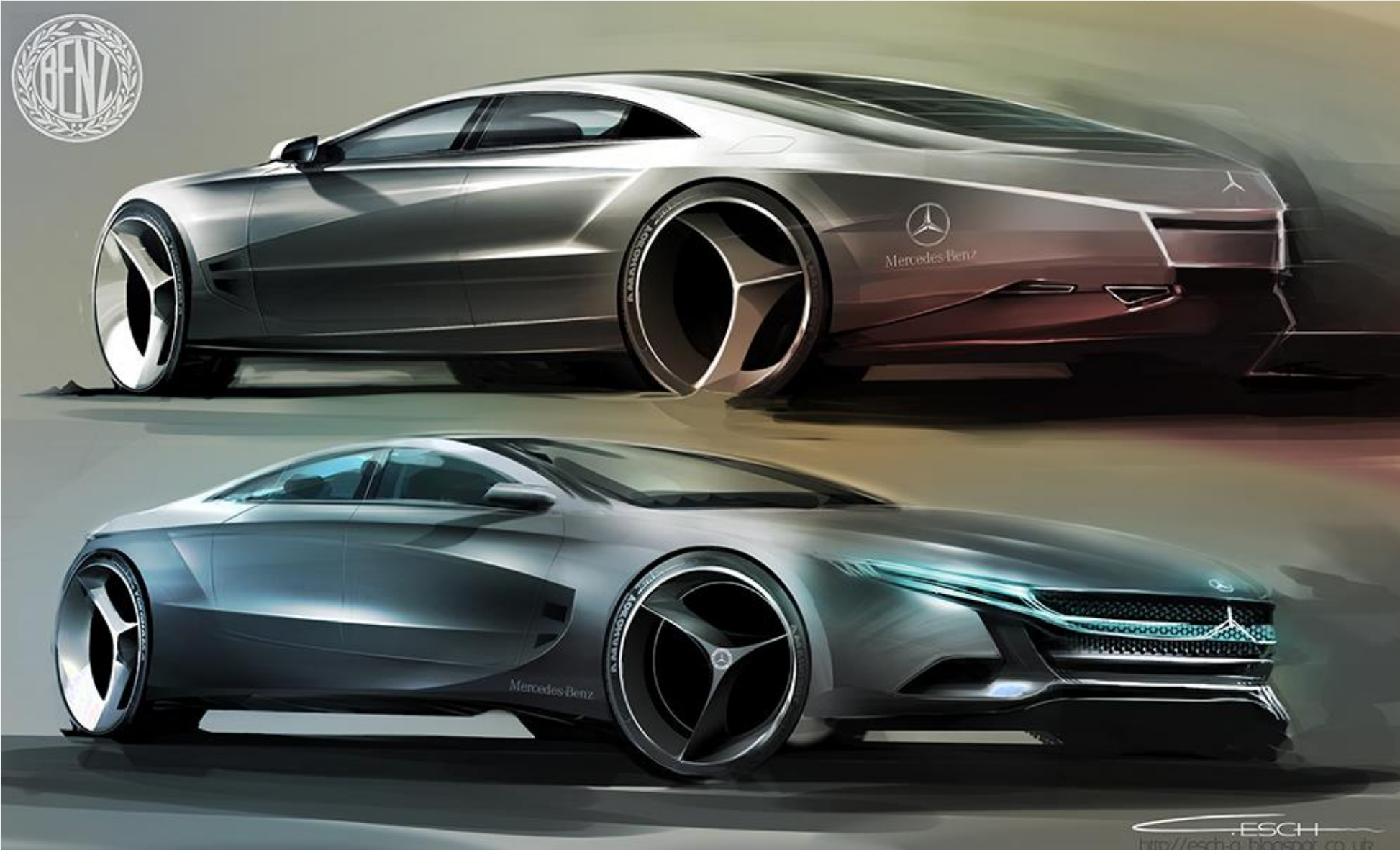
Then try to get the pillars and window curves  
and the rear view mirrors on their same line too

Front wheel perfectly placed

Bumber and headlamps very well placed; The perspective lines show the  
headlamps are exactly right placed just as the form of the front bumper



# Perspectiva 3/4



# *Perspectiva Lateral*





*Perspectiva Frontal y Trasera*

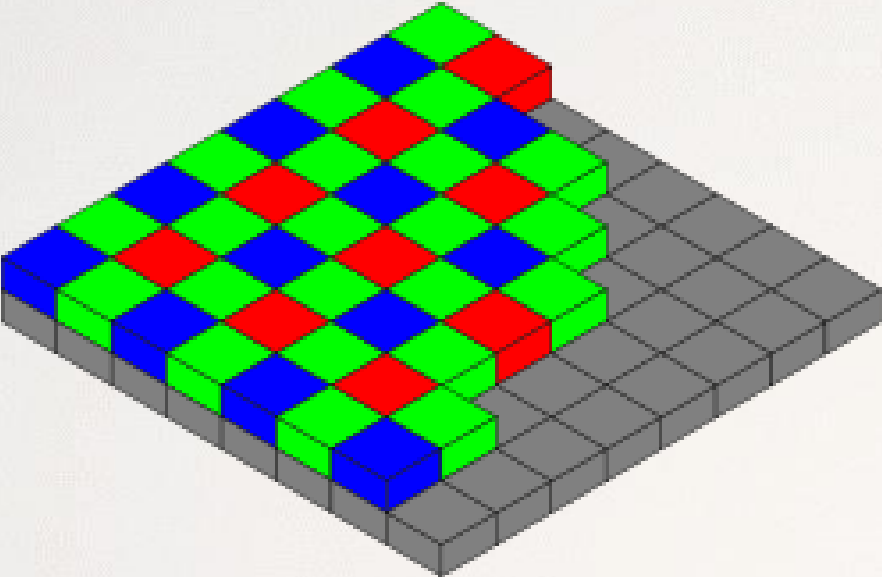


# *Perspectiva Isométrica Libre*



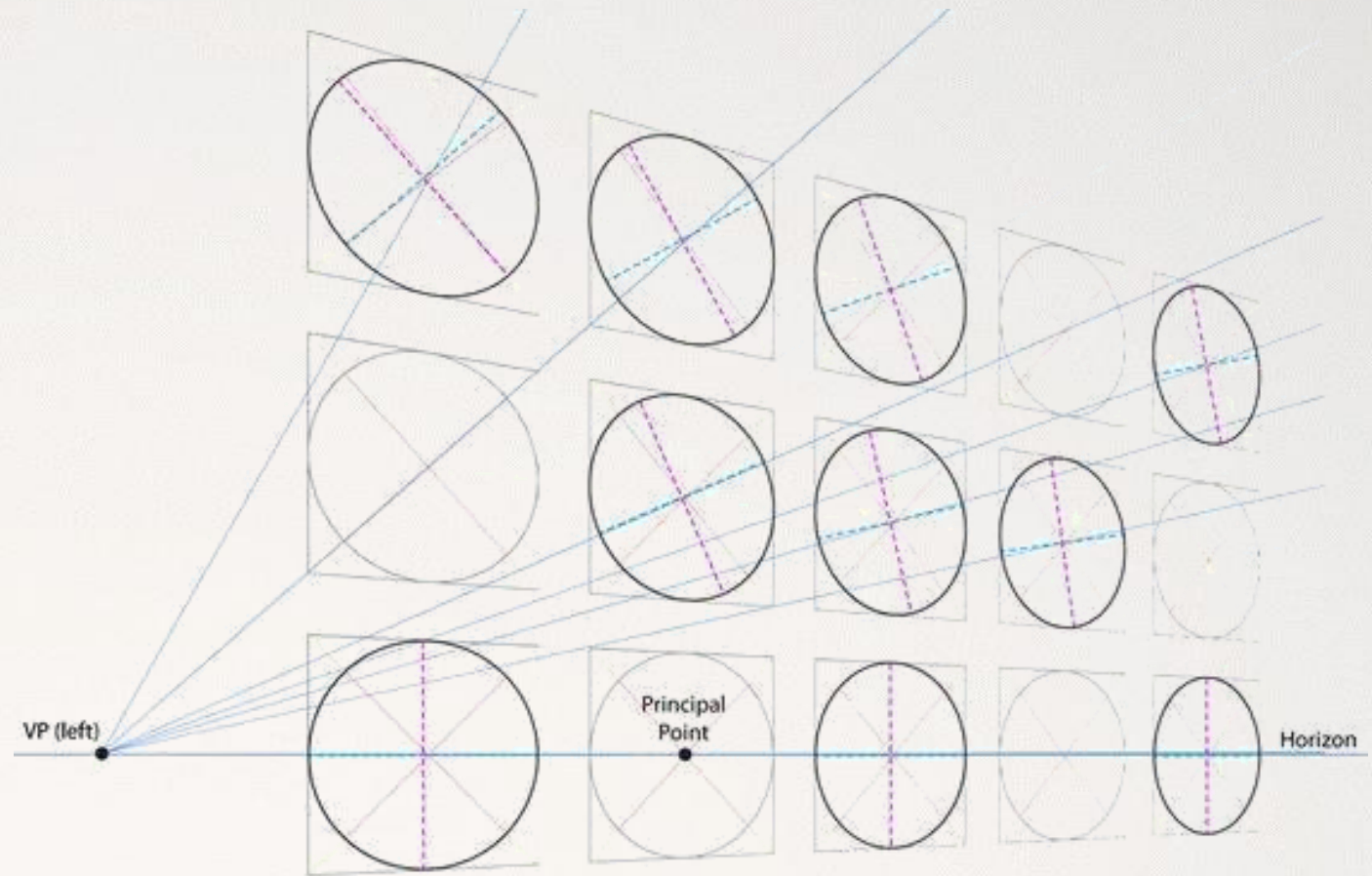
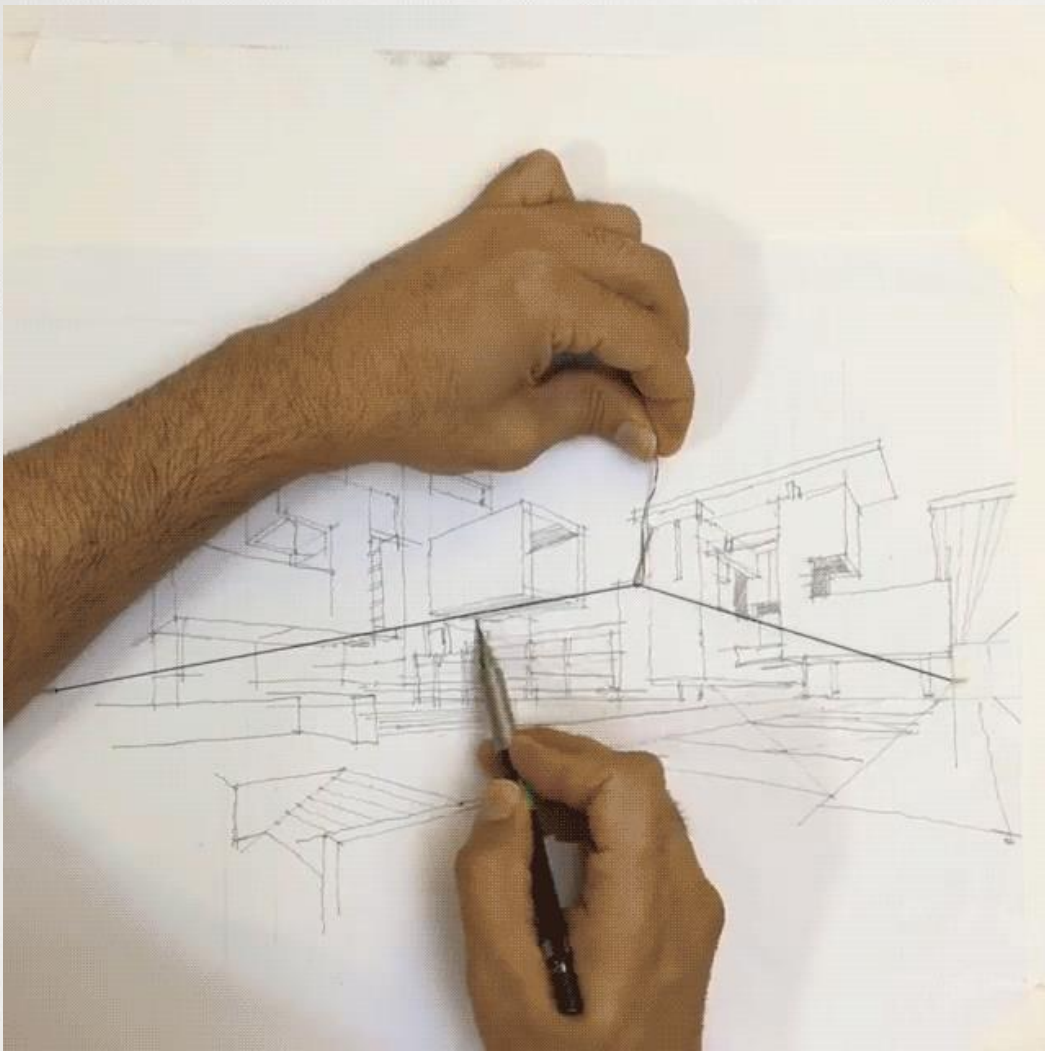


*Perspectiva*



*Puntos de Fuga y Volúmenes*

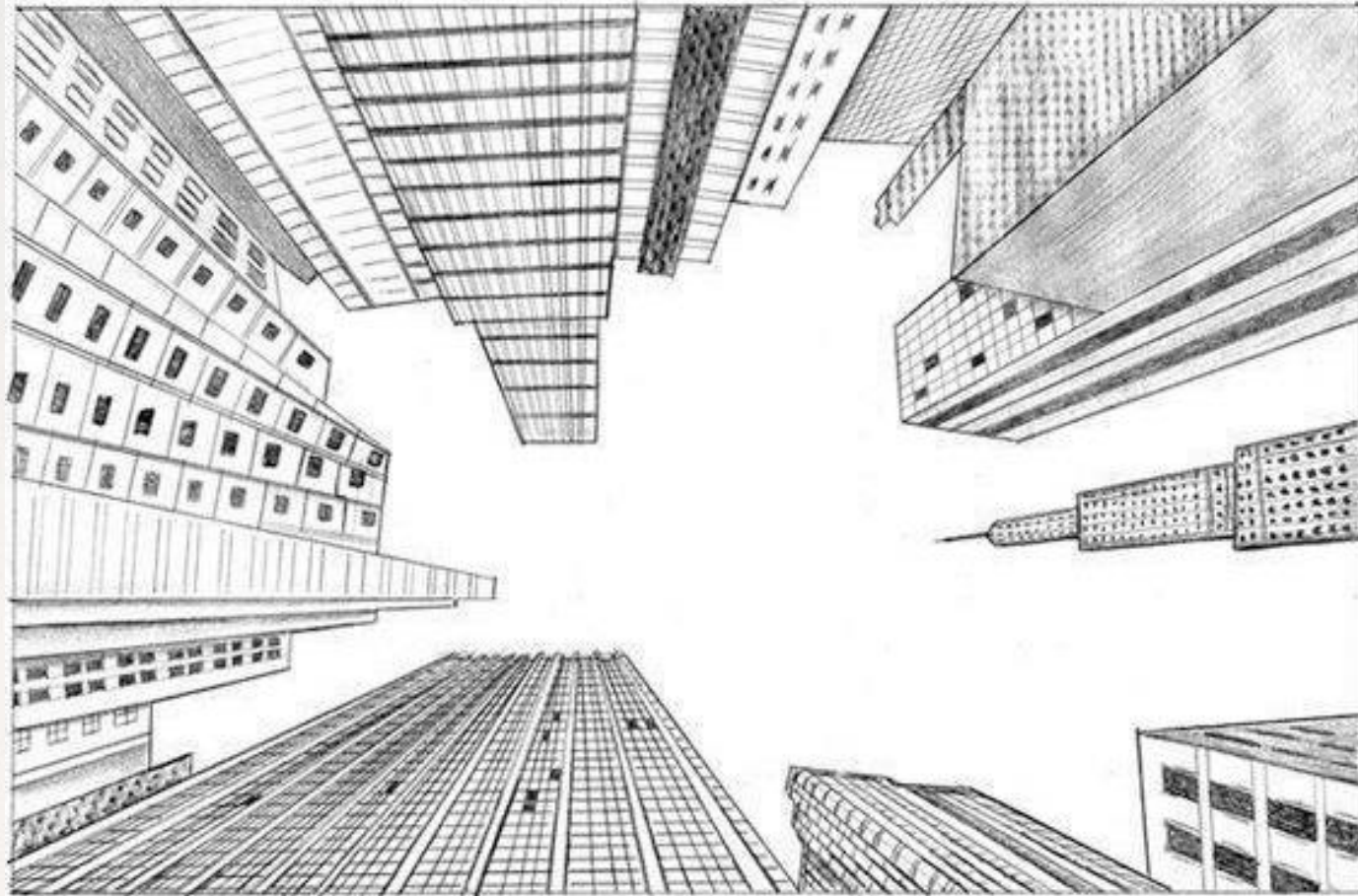
# *Perspectiva*



*Puntos de Fuga y Volúmenes*

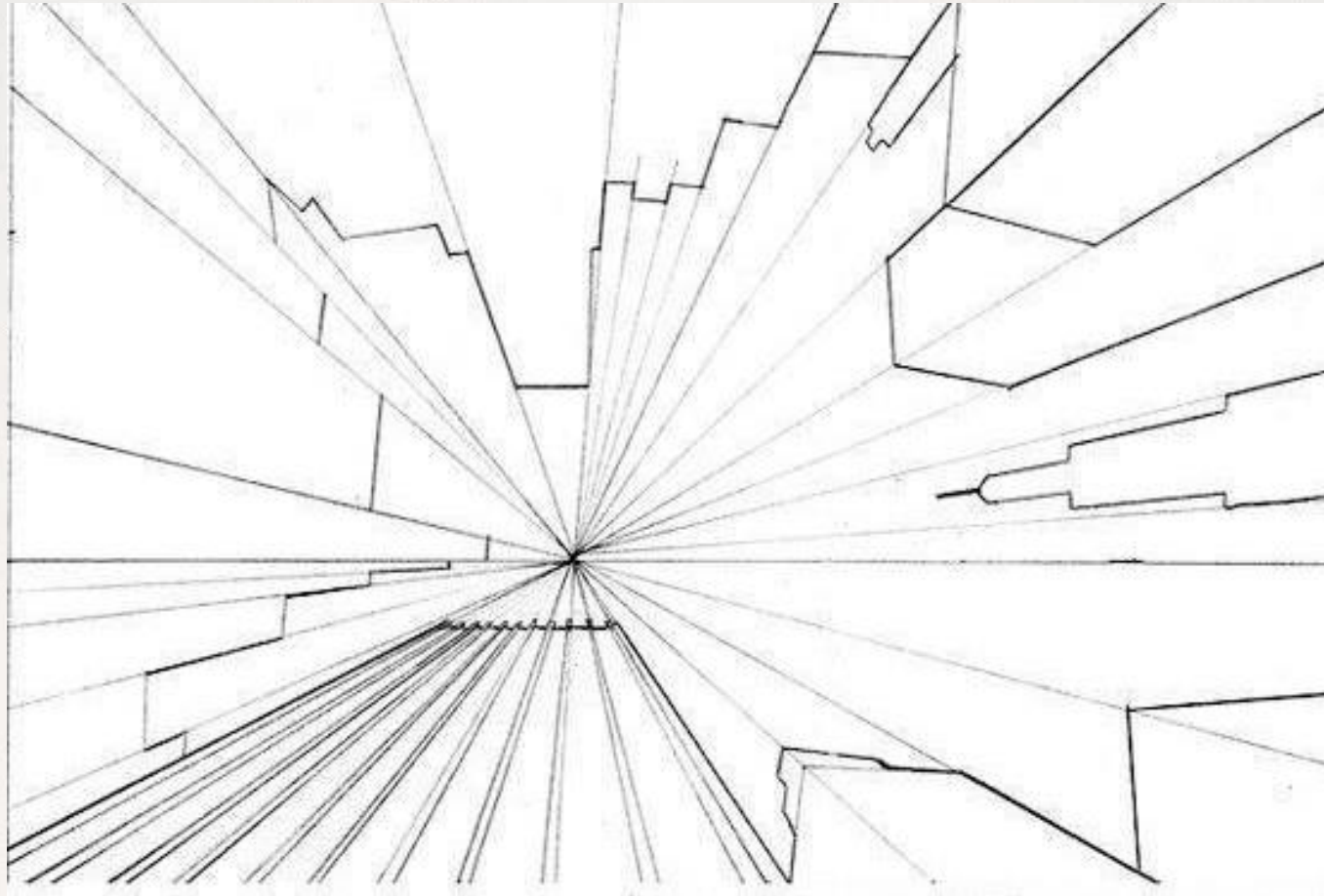


# *Perspectiva*



*Puntos de Fuga y Volúmenes*

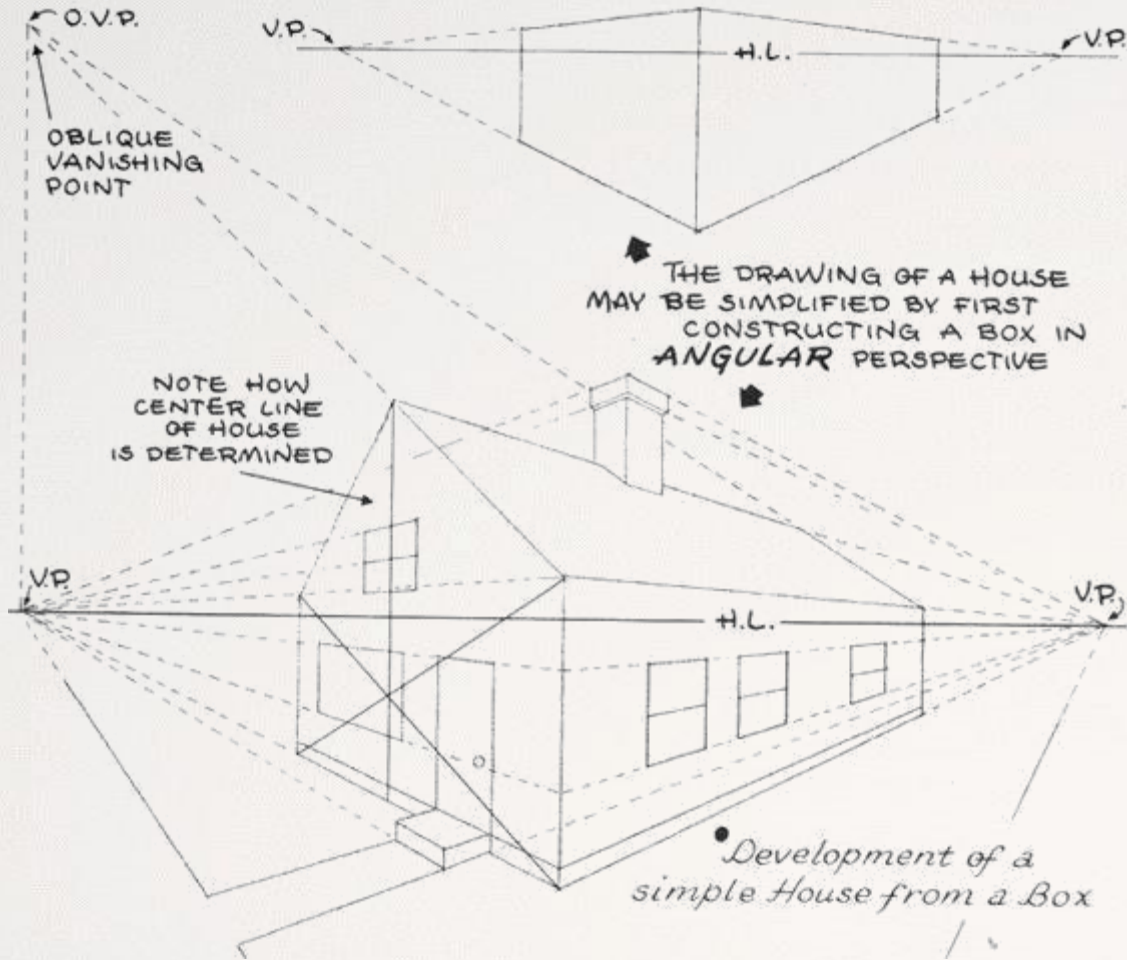
# *Perspectiva*



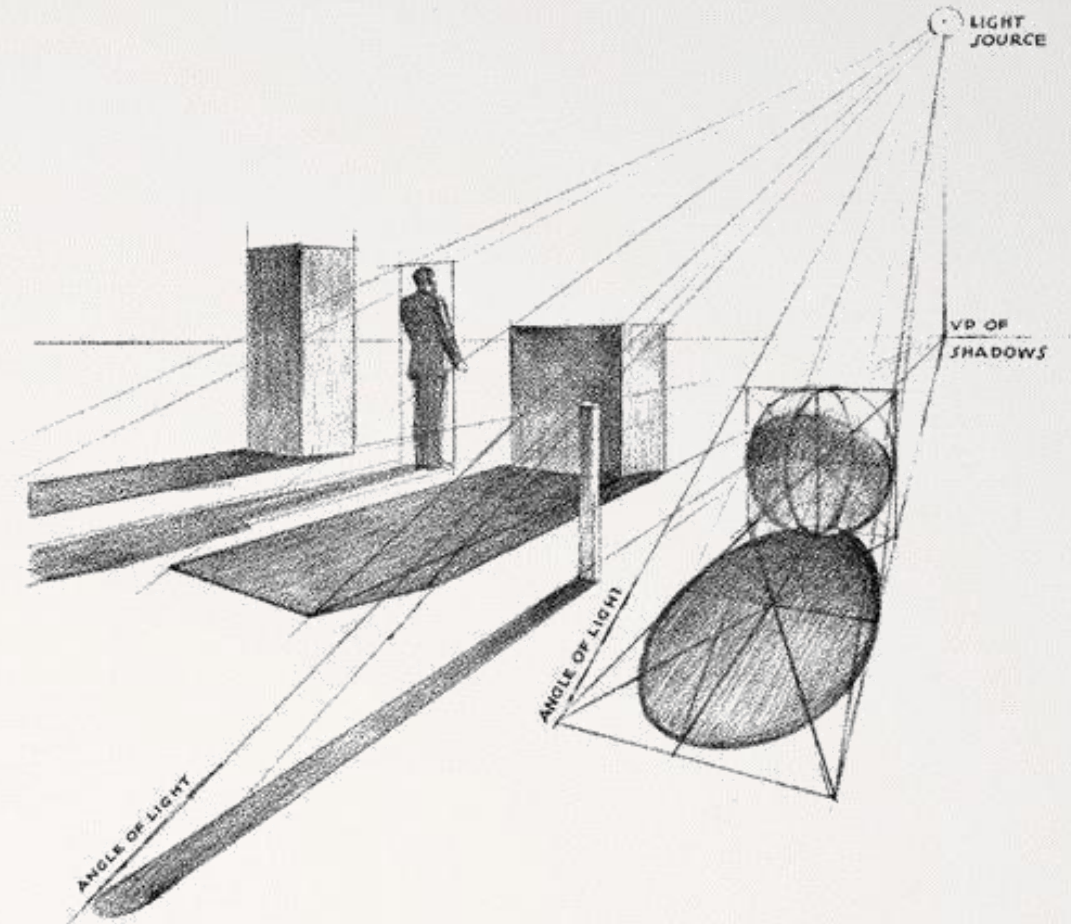
*Puntos de Fuga y Volúmenes*



# Perspectiva

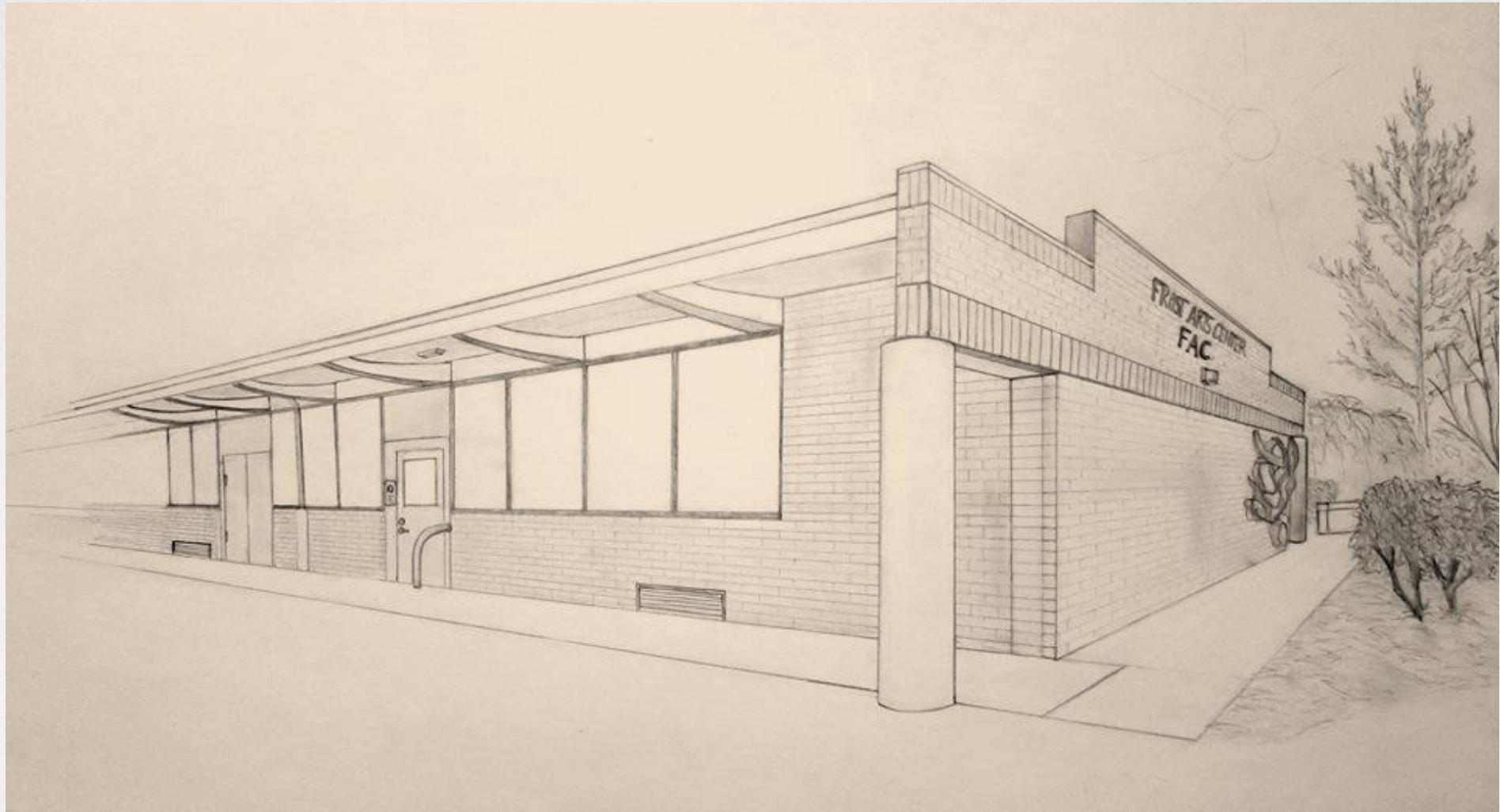


## PERSPECTIVE OF SHADOWS



*Puntos de Fuga y Volúmenes*

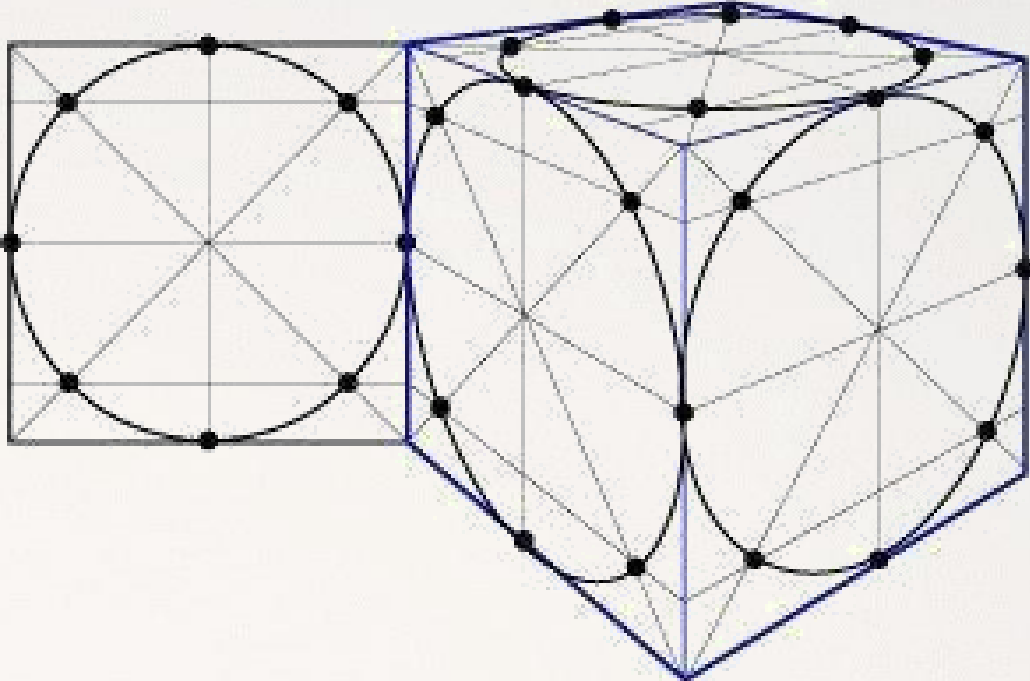
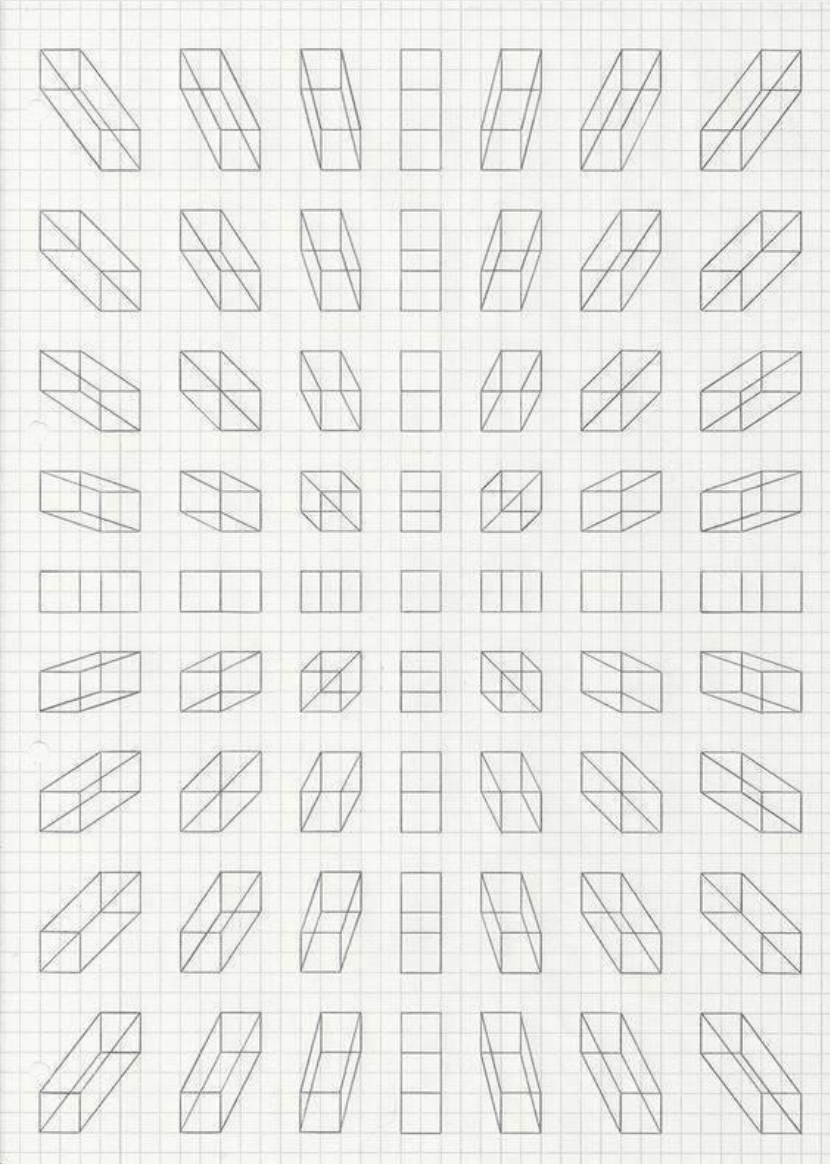
# *Perspectiva*



*Puntos de Fuga y Volúmenes*



# Perspectiva



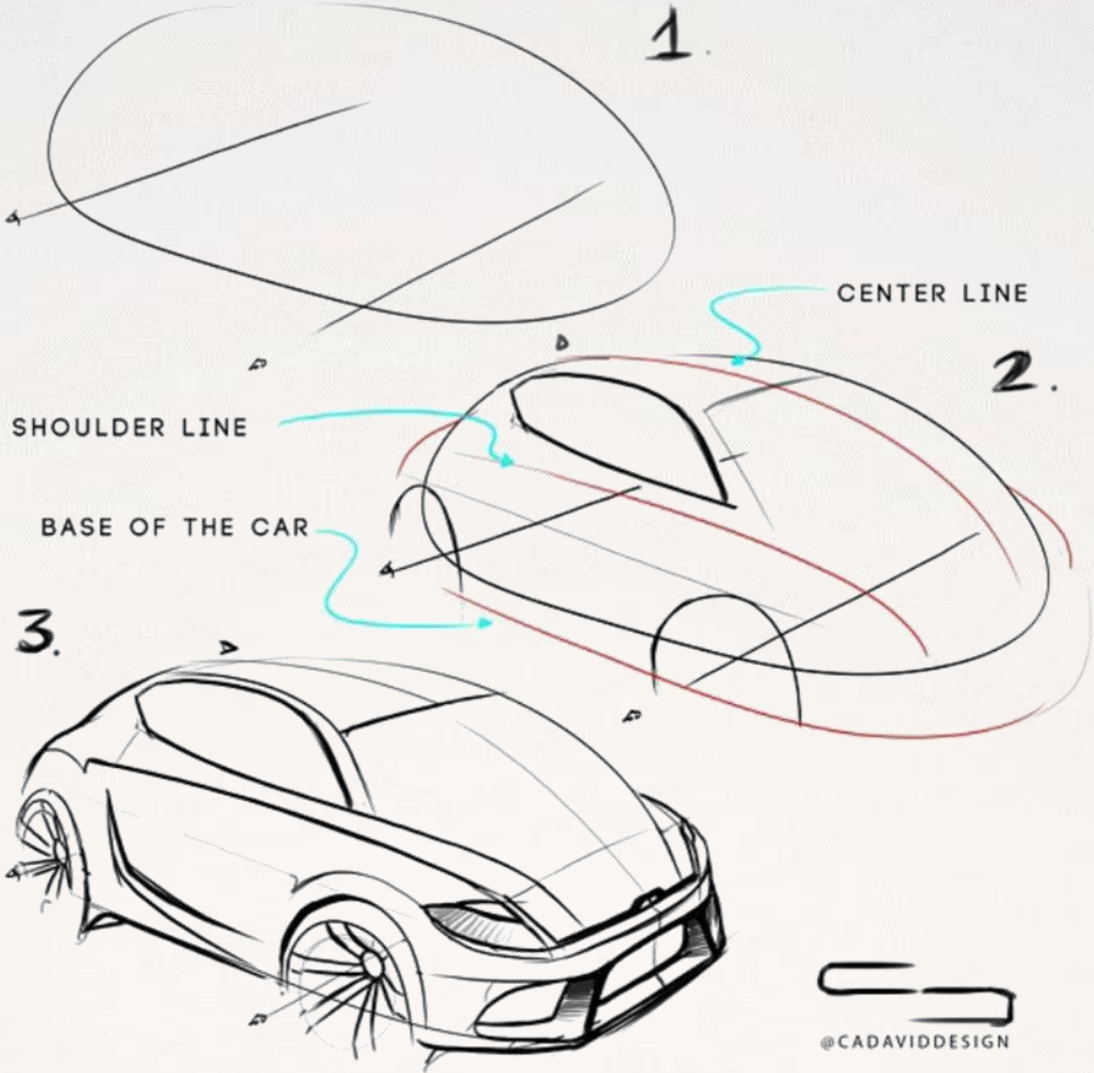
*Puntos de Fuga y Volúmenes*

# Perspectiva




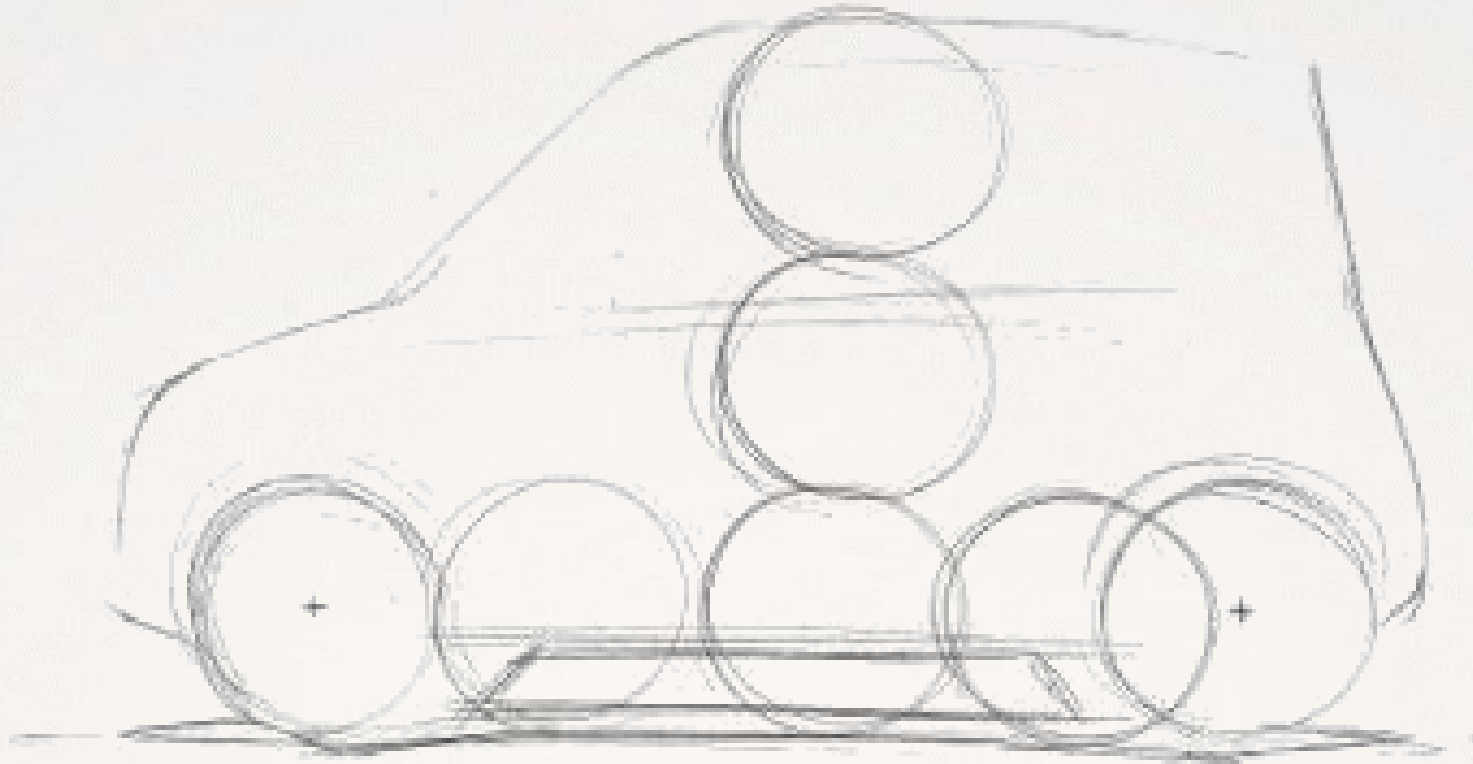



# Perspectiva



# Perspectiva

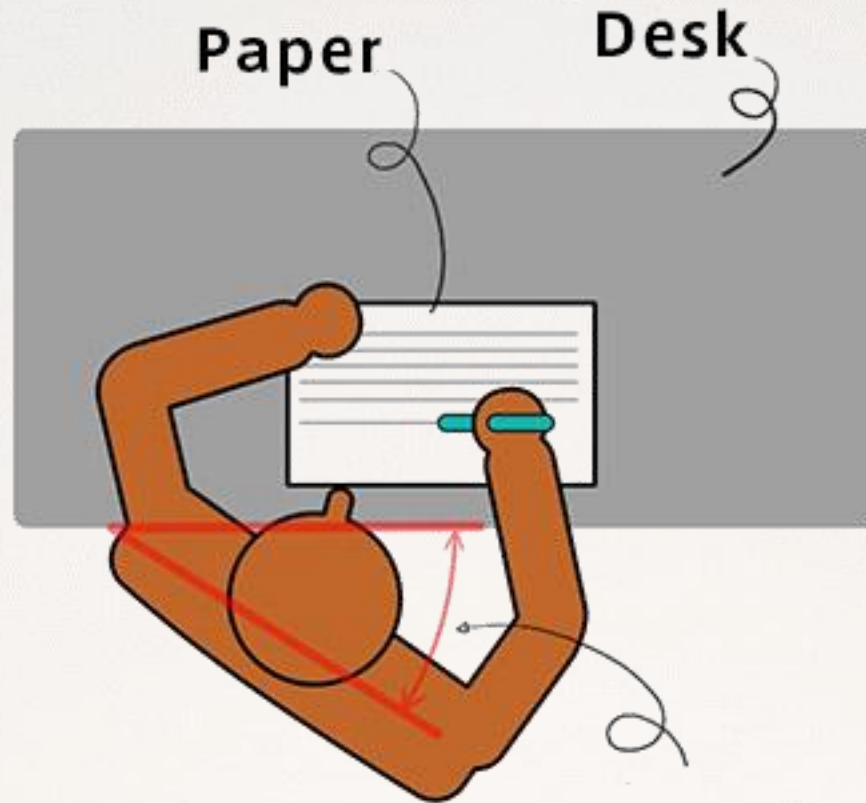
- 1.  STOP
- TRANSPORTATION
- BASIC LINE WORK



  
01.03.10



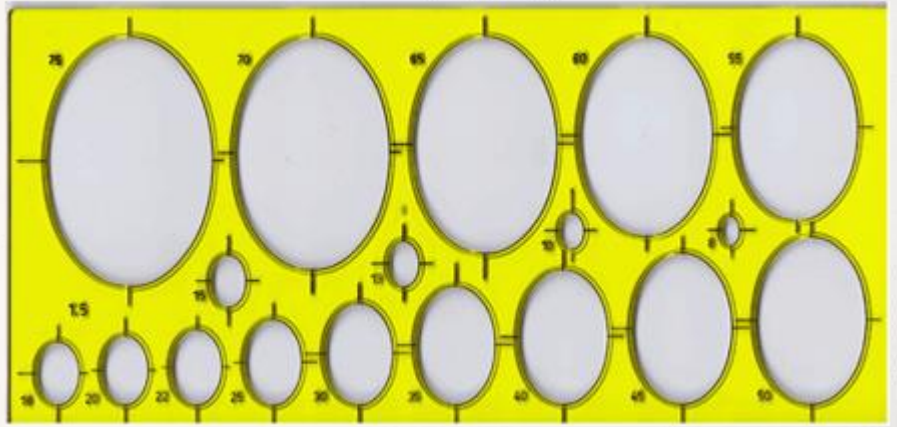
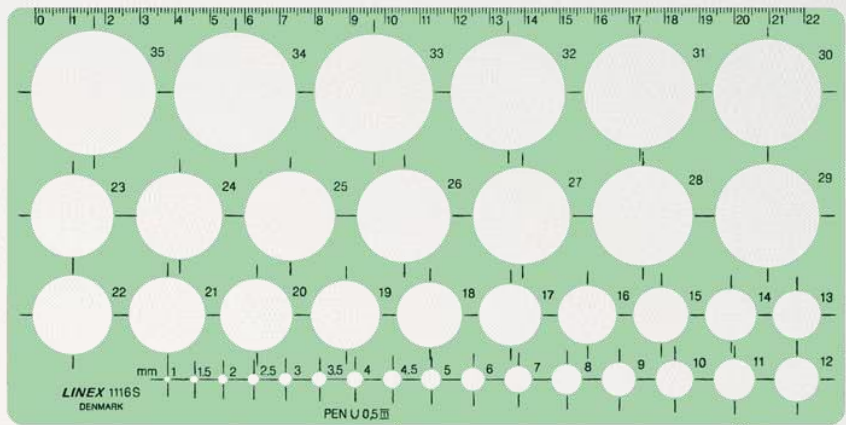
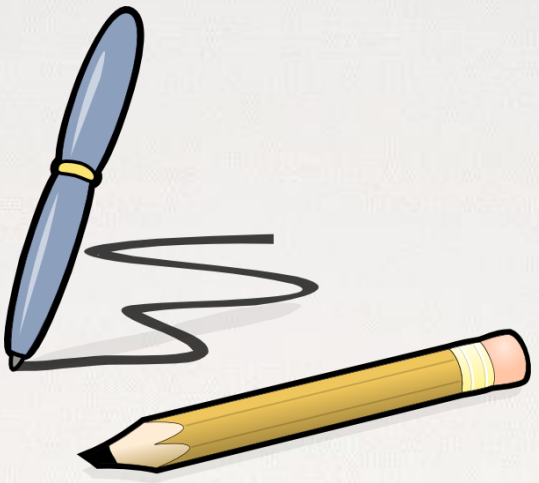
# *Perspectiva*



**Incline your body against the desk.  
The inclining angle would be best  
when your arm can swing easily.**

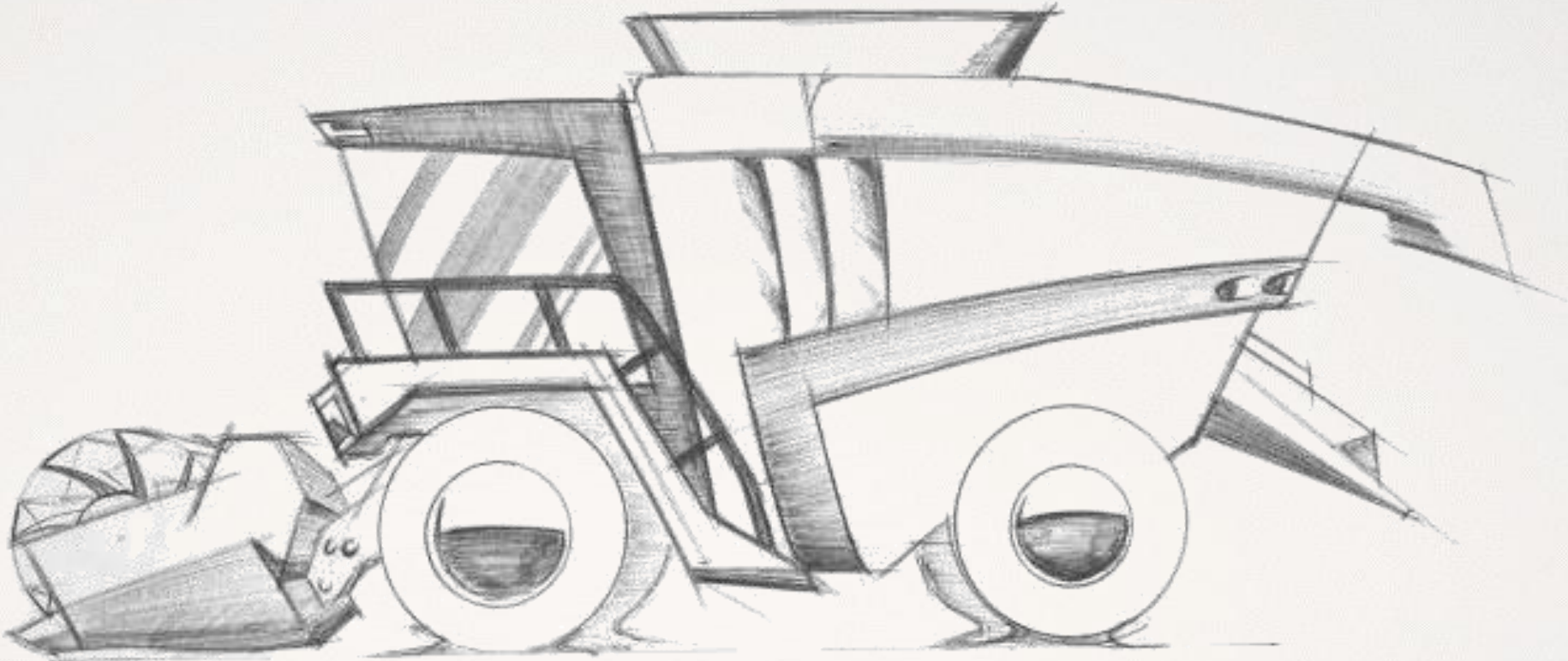
*Puntos de Fuga y Volúmenes*

# Herramientas

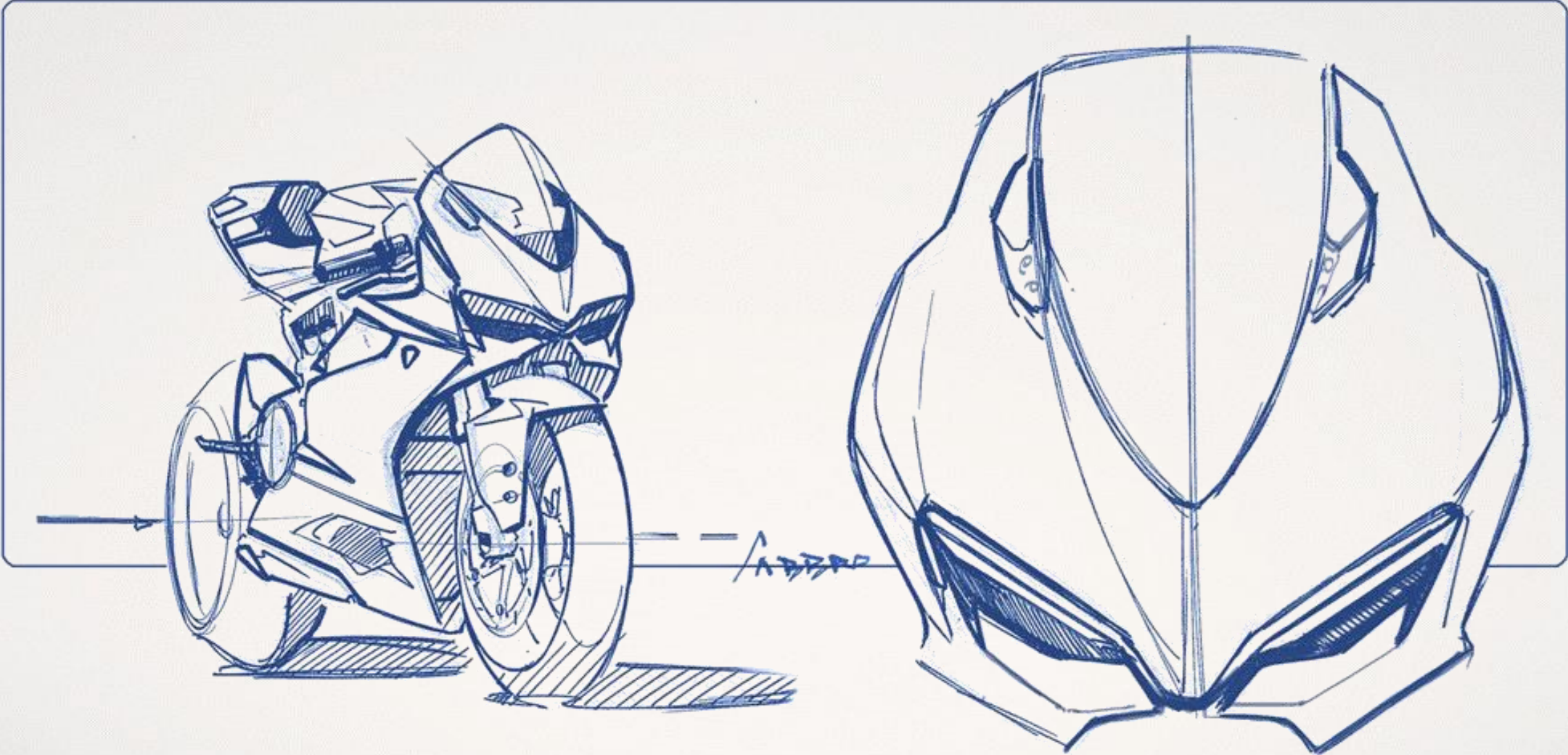




*Pencil Sketch*

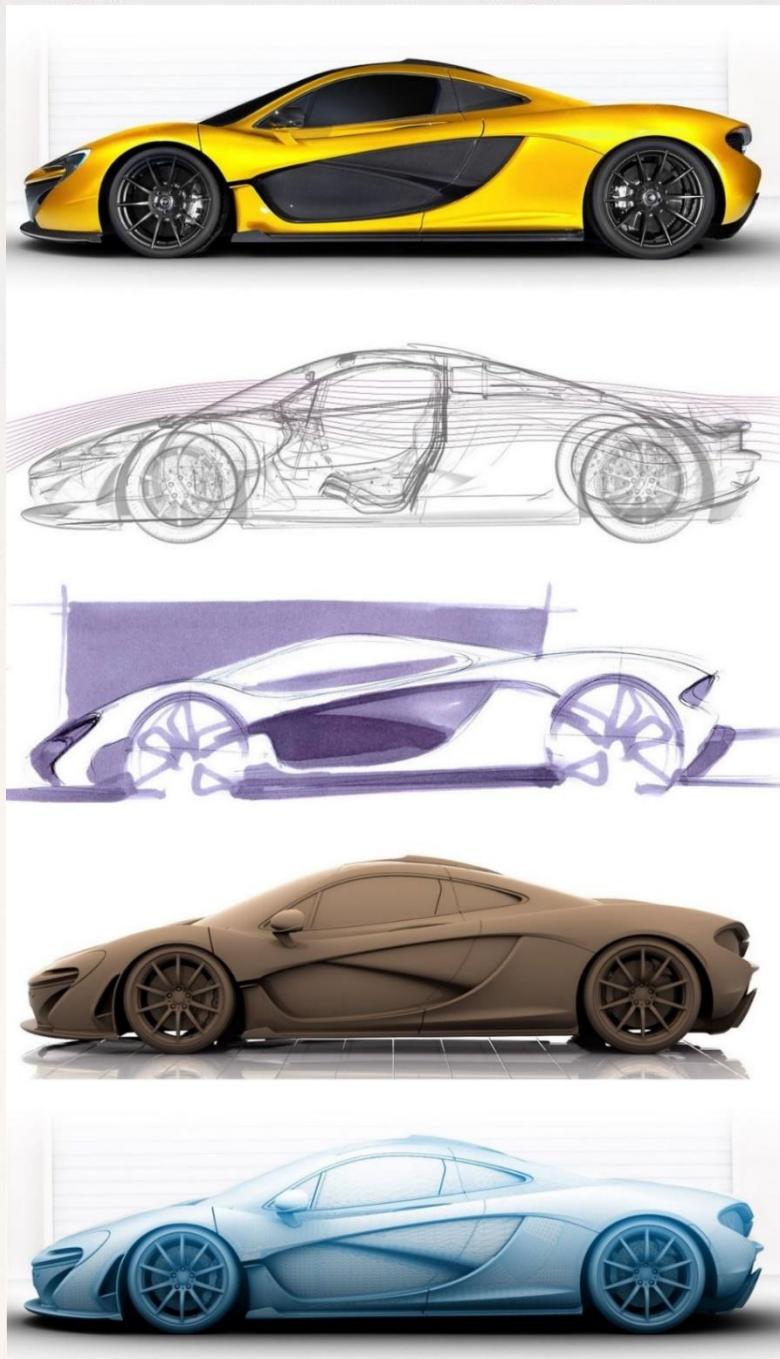


# Ballpen Sketch





# Sketch



# Marker Sketch

[i love sketching.com](http://i love sketching.com)





# *Herramientas para Rendering*



*Adobe Photoshop*



*Adobe Illustrator*



*Autodesk Sketchbook Pro*



*Corel Draw Painter*

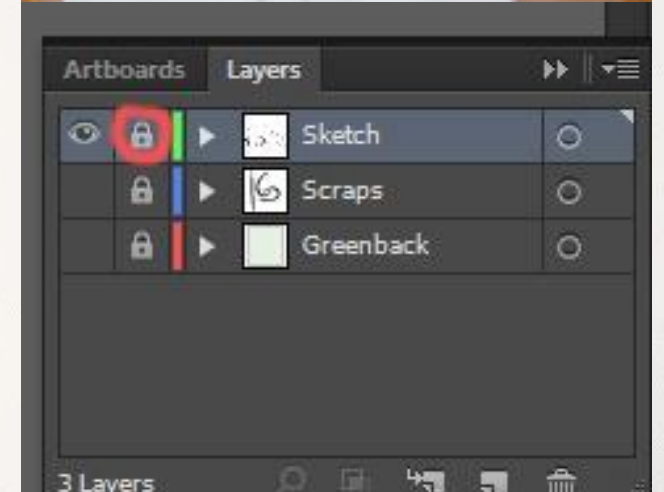
# Rendering





# Técnicas de Rendering

- Trabajo por capas (layer)
- Imitación de pinceles y lápices
- Vectores o Pixeles



# Sketch





# Rendering

Compact  
Muscular



*Handwritten signature*

# *Ejemplos de Rendering*





# Ejemplos de Rendering

## The All-New Ford Mustang



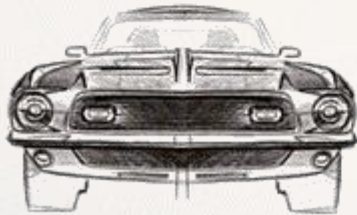
"The fist punching out"

Forward-leaning  
"shark-bite" nose

Dual roof bubbles

Bodyside crease for  
lower, longer look

1968-inspired front



KEMAL CURIC

LED "gill" lights

Sketch is for illustrative purposes only



# Rendering



RANDON



# *Rendering 3D*





# 3D Modeling

