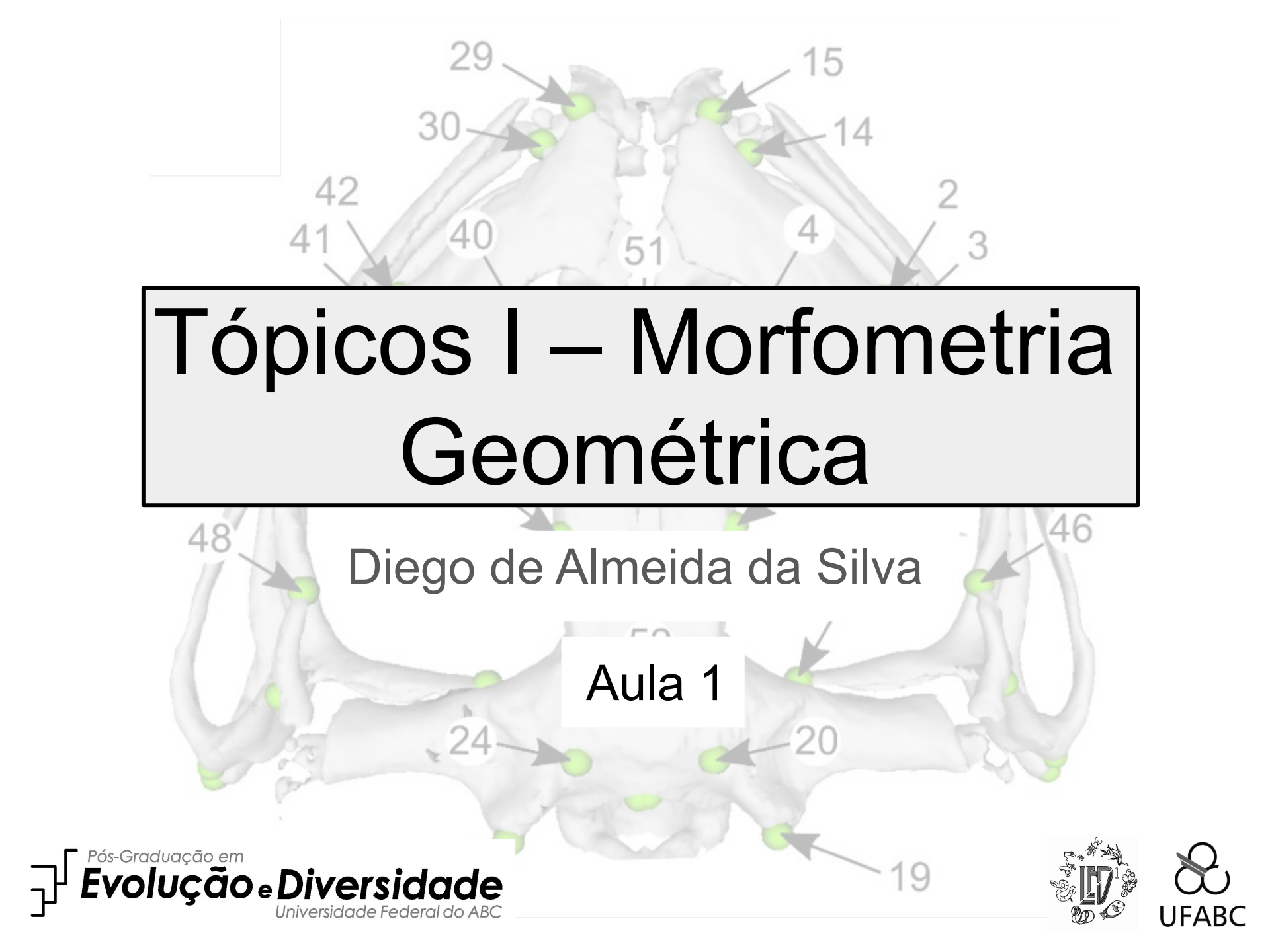
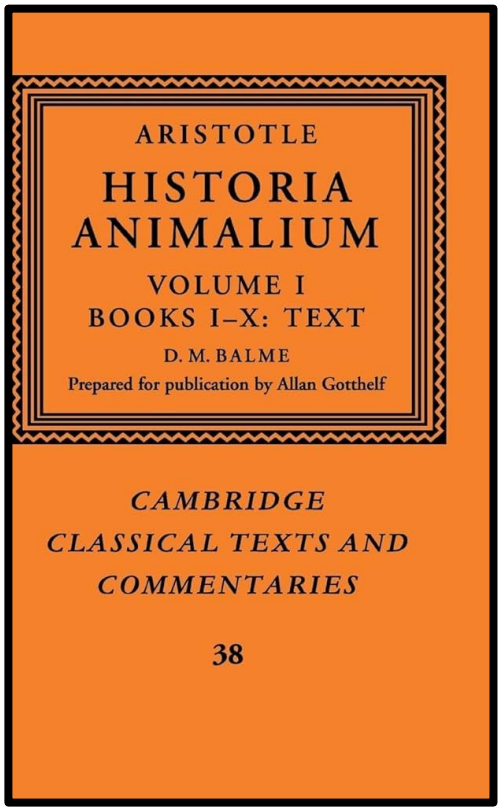


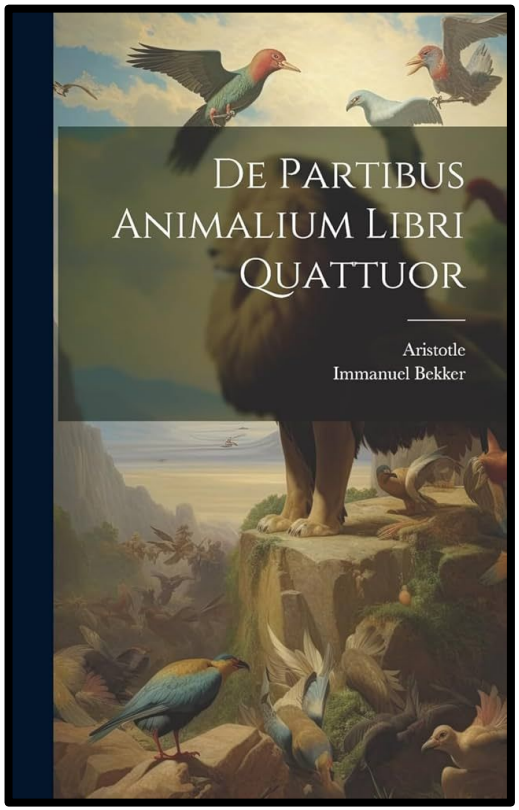
Tópicos I – Morfometria Geométrica

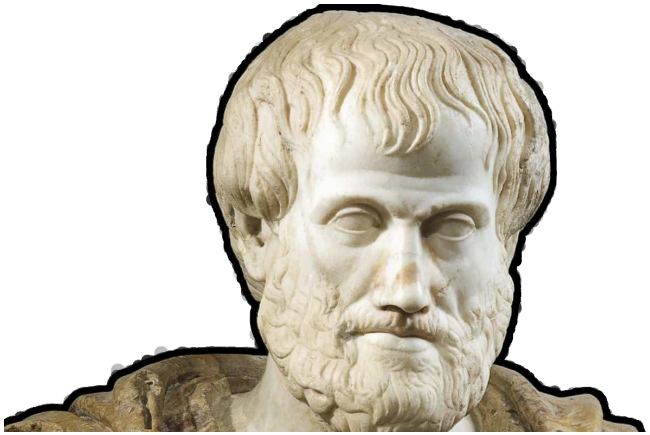
Diego de Almeida da Silva

Aula 1

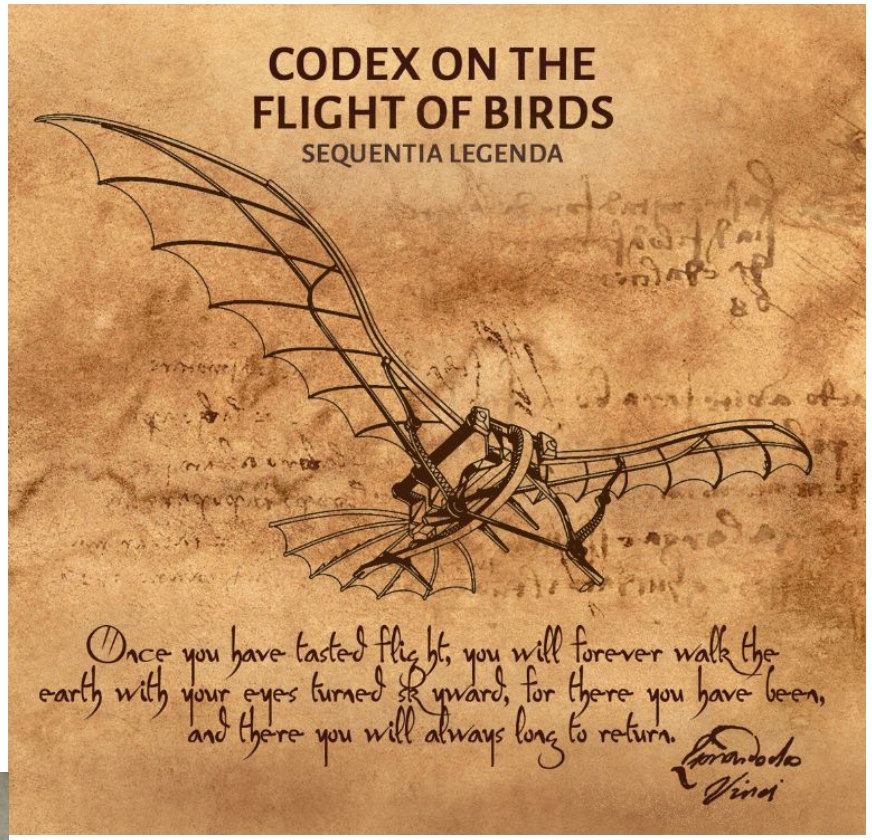
- Antiguidade: Aristóteles

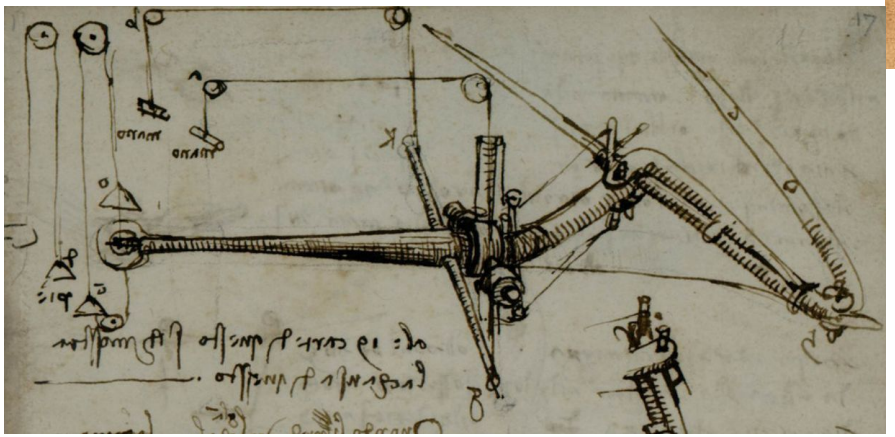




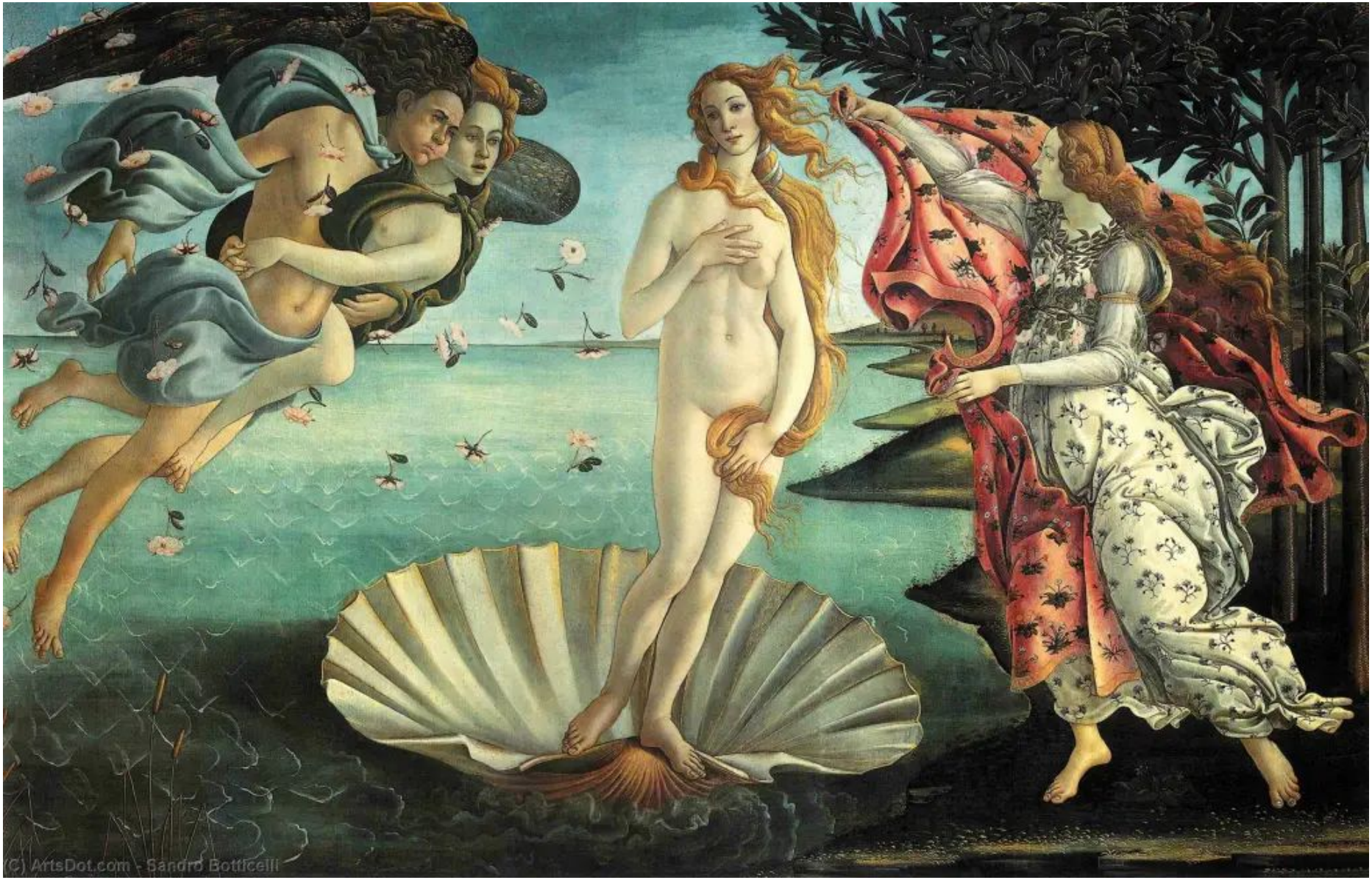


- Renascimento

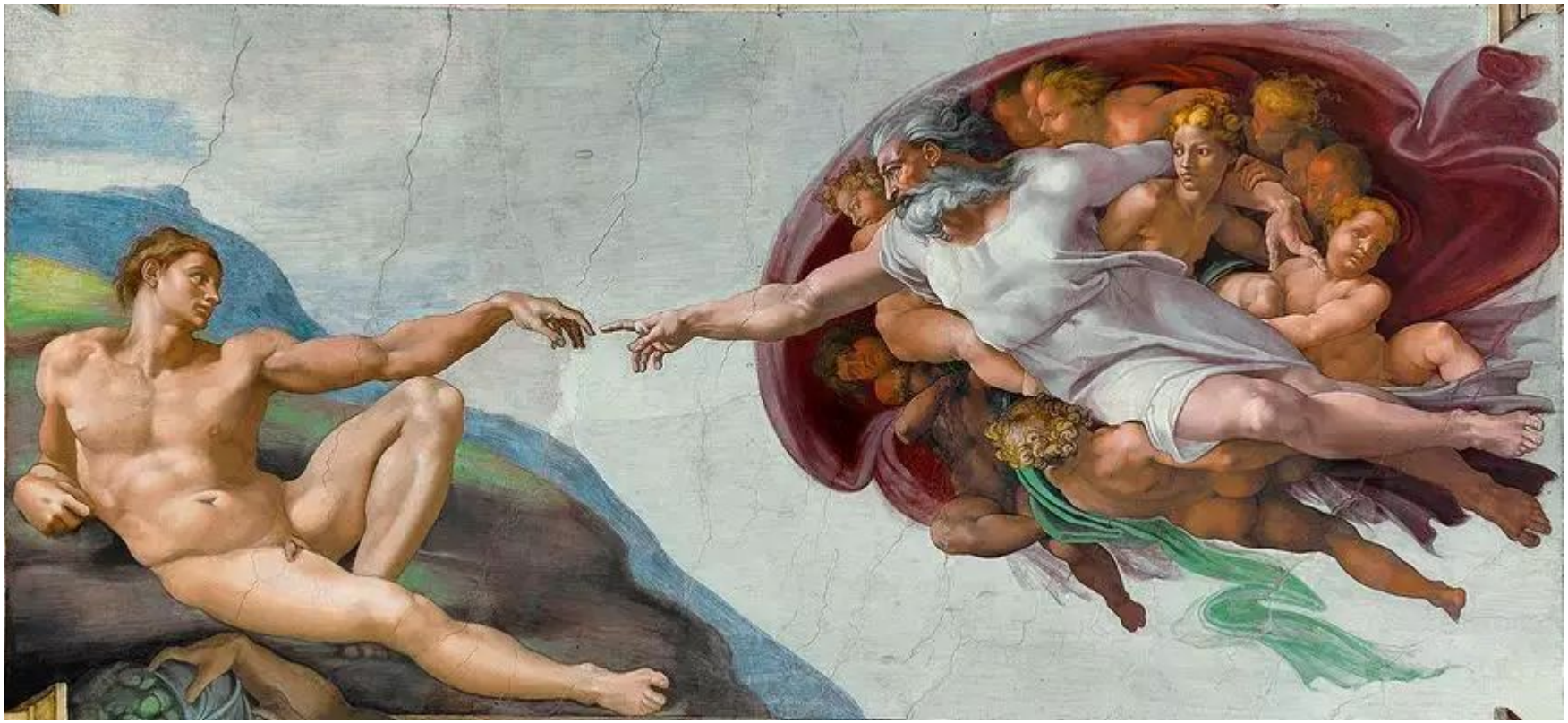




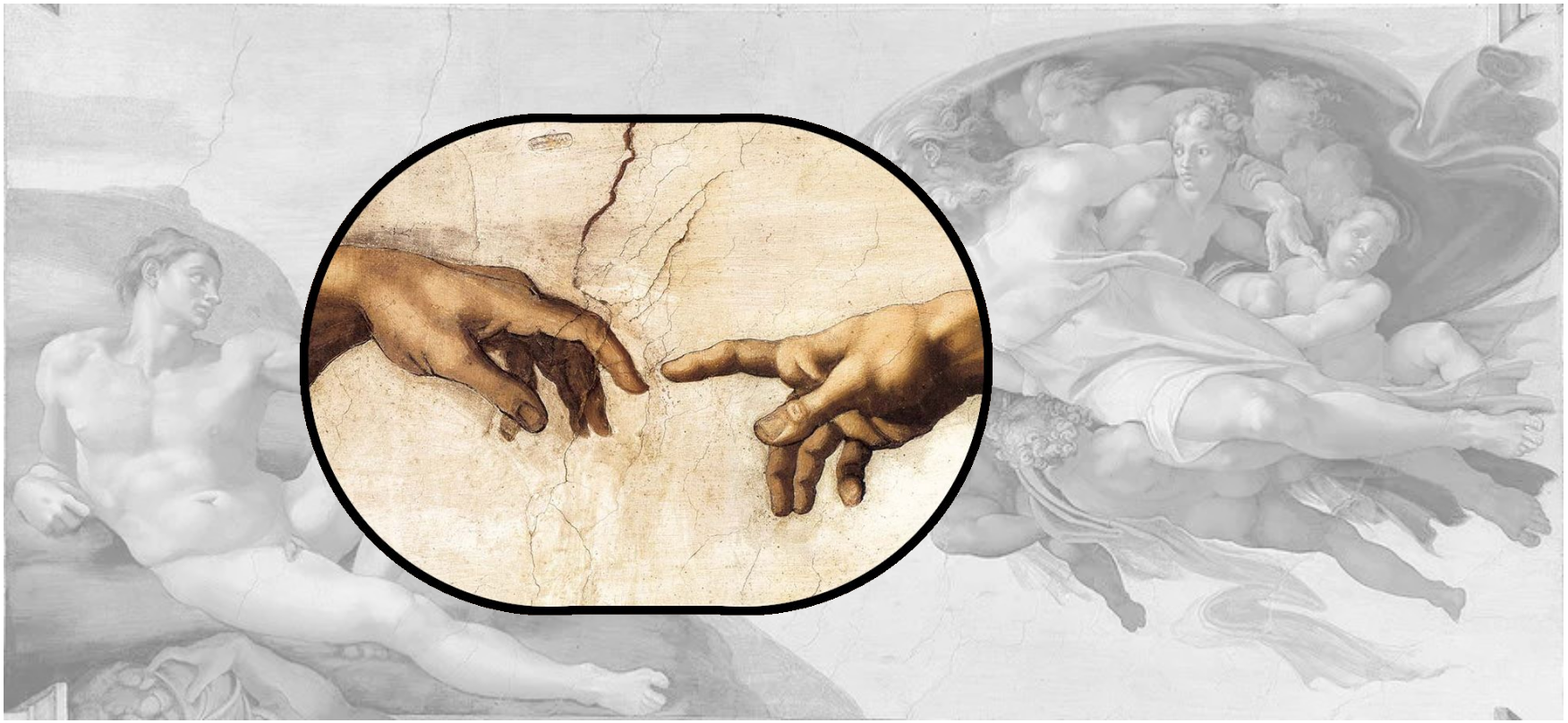
- Renascimento



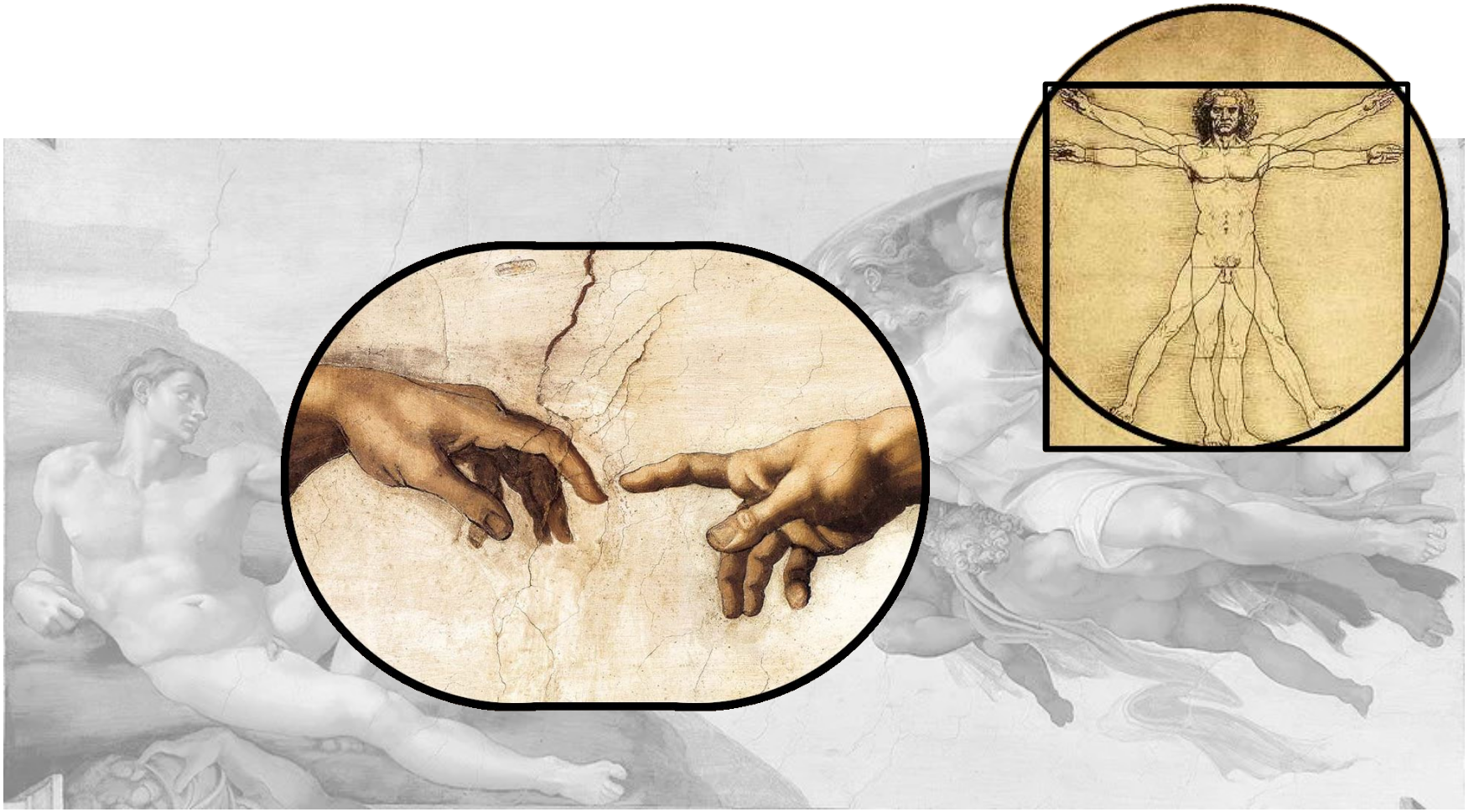
- Renascimento



- Renascimento

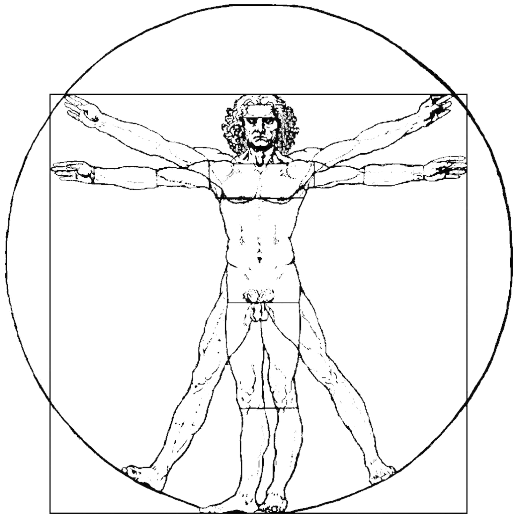


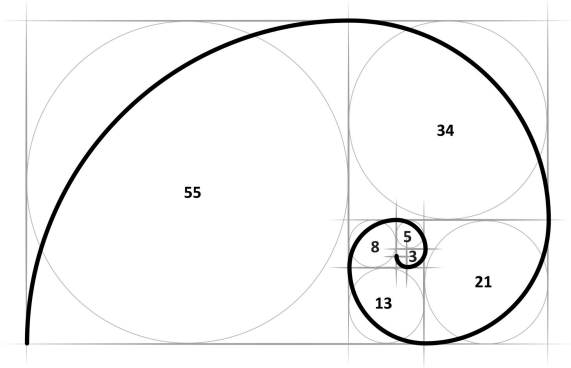
- Renascimento



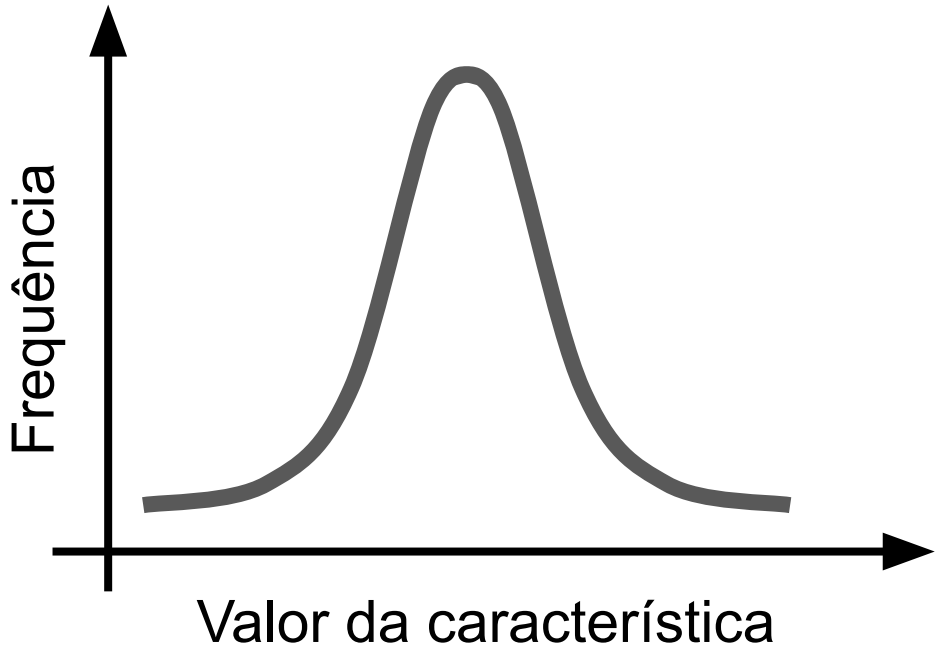
- Renascimento

Busca pela compreensão de proporções



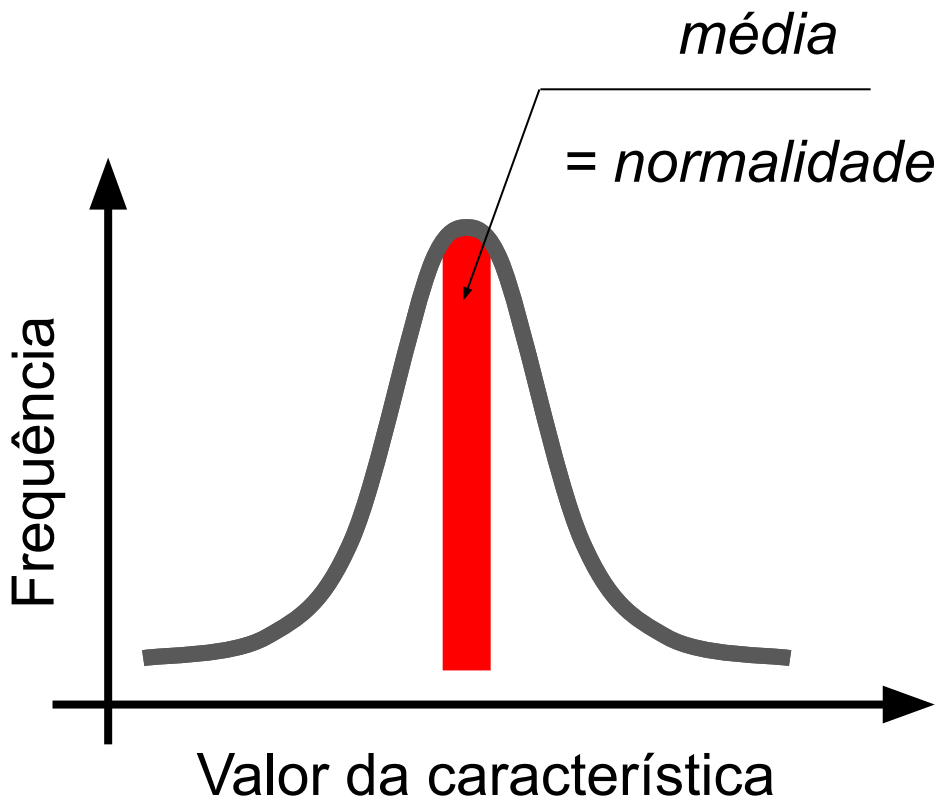


- Século XVII: Adolphe Quételet

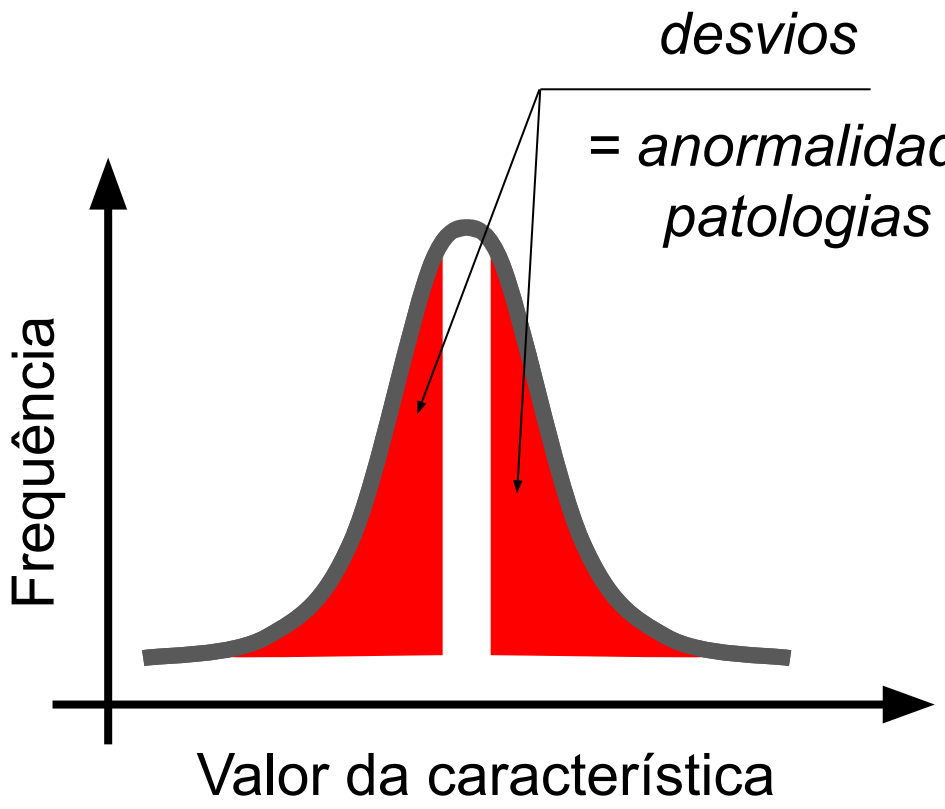


homem médio

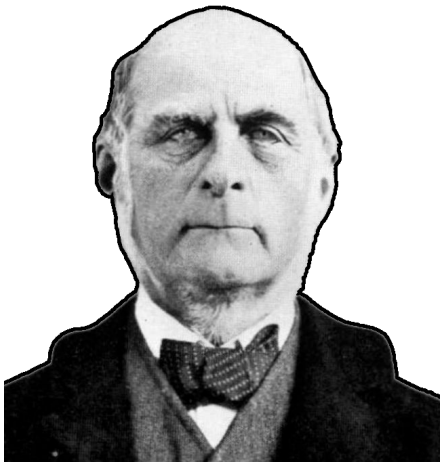
- Século XVII: Adolphe Quételet

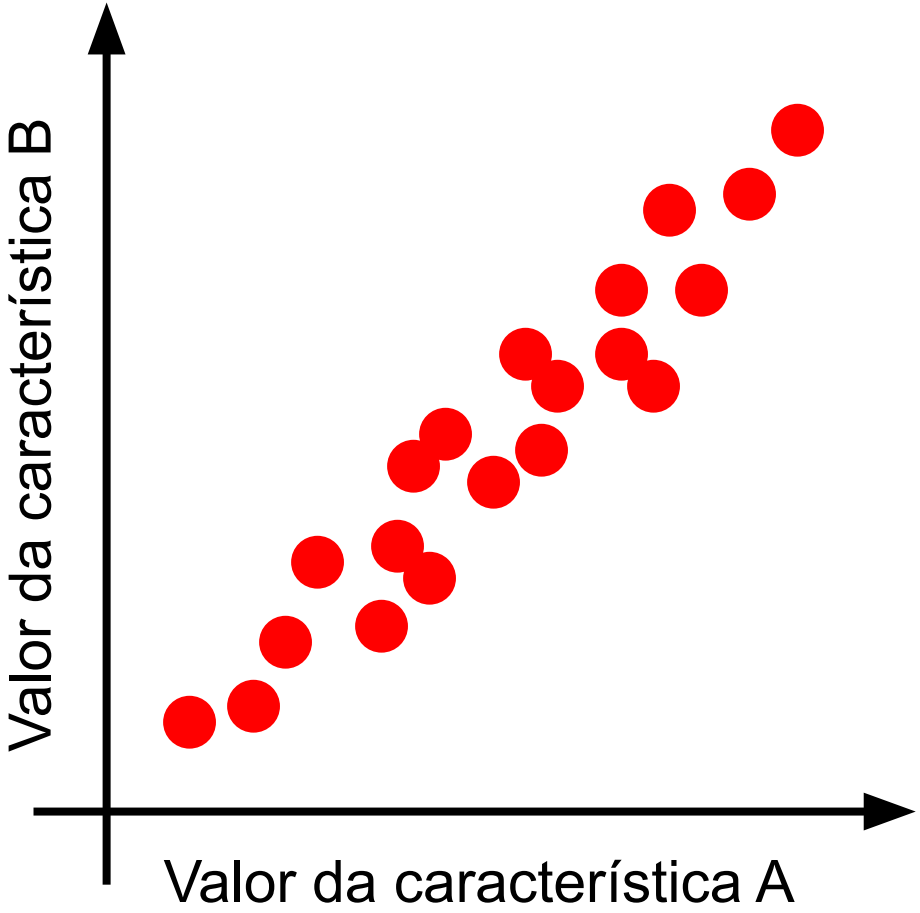


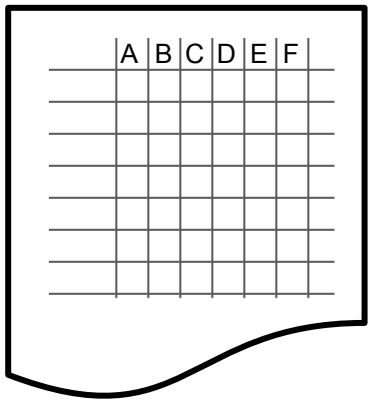
- Século XVII: Adolphe Quételet



- Século XIX: Francis Galton, Florence Nightingale

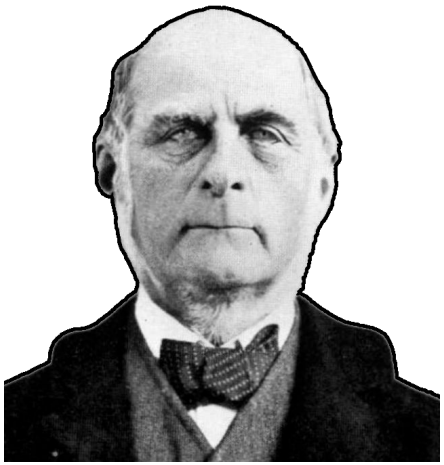


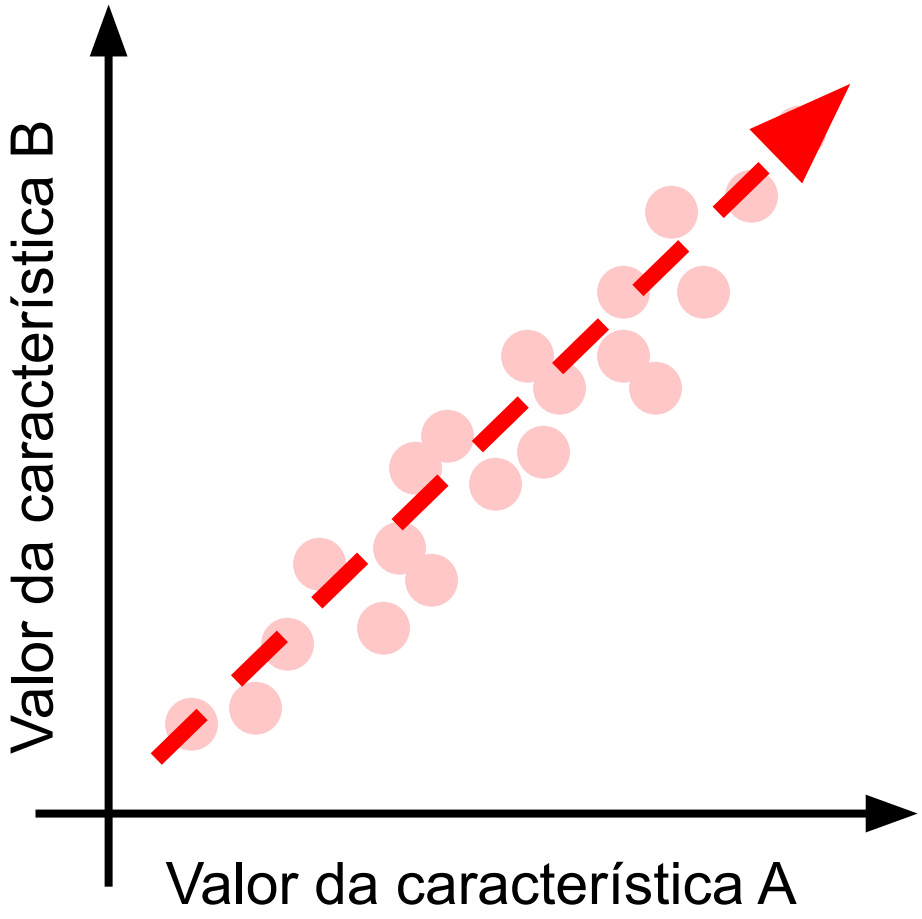




tabulação de dados, gráficos

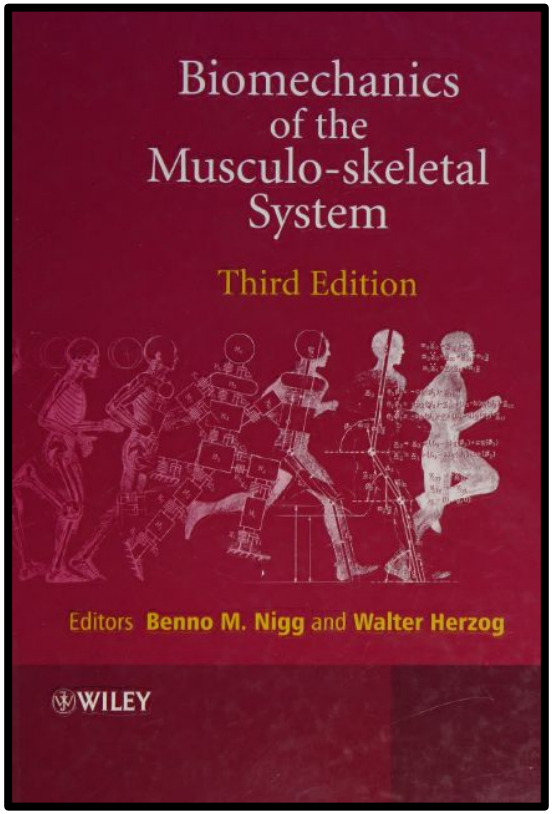
- Século XIX: Francis Galton

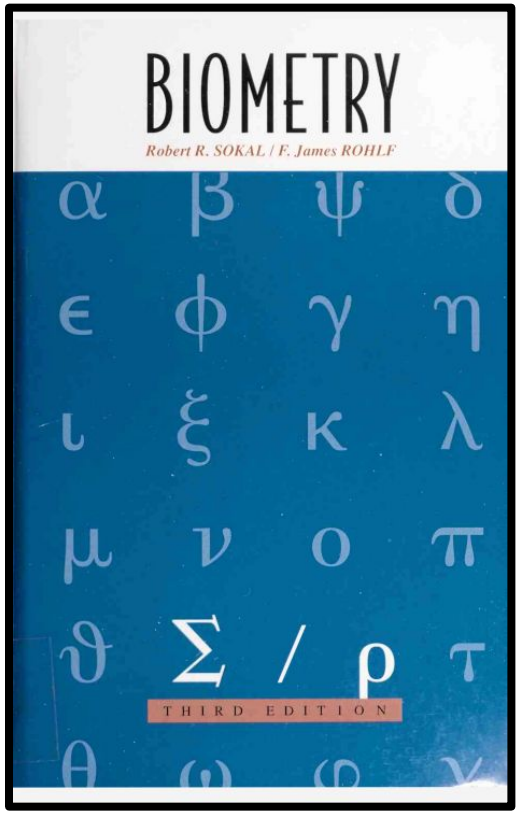




correlação, regressão linear

- Século XX: Karl Pearson, Ronald A. Fisher





Exemplo

Imagine que tenho dois grupos taxonômicos que:

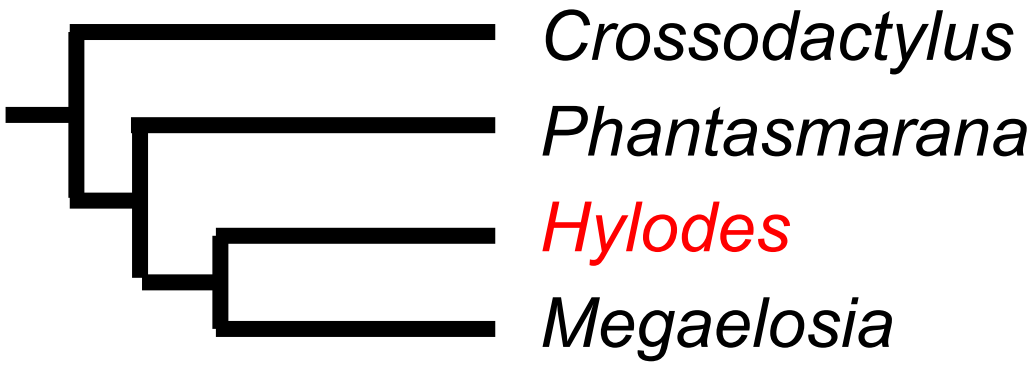
- *são próximos filogeneticamente*

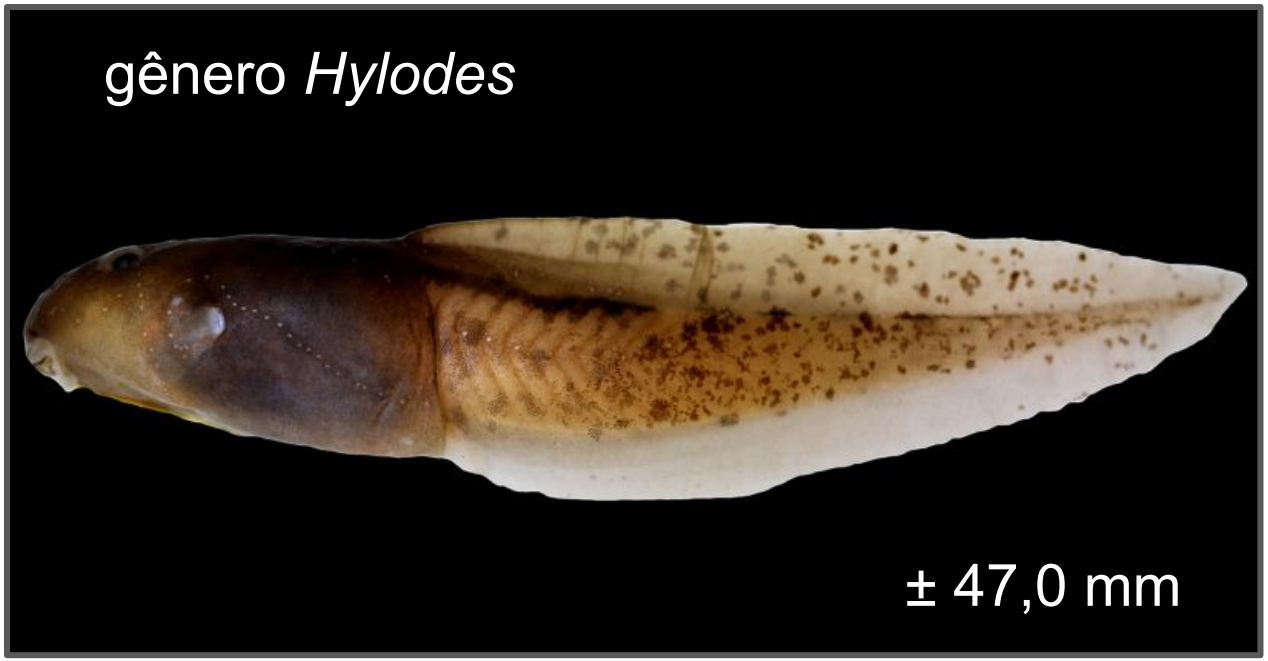
Exemplo

Imagine que tenho dois grupos taxonômicos que:

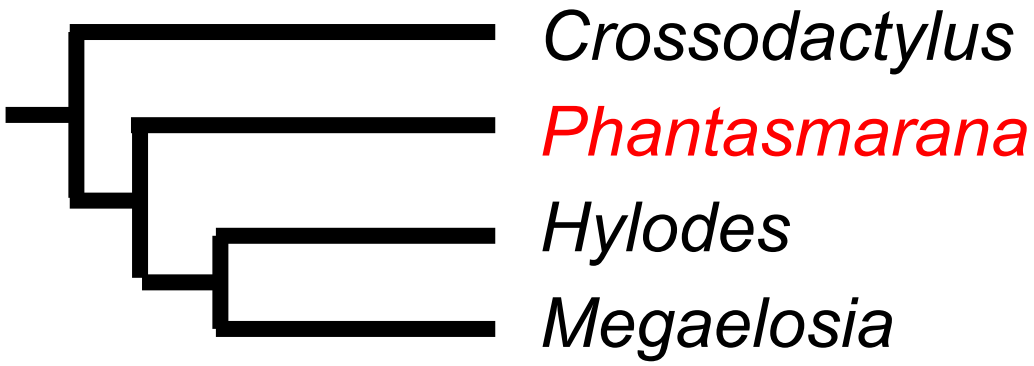
- *são próximos filogeneticamente*
- *muito diferentes no tamanho*

Exemplo


Crossodactylus
Phantasmarana
Hylodes
Megaelosia


gênero *Hylodes*
± 47,0 mm

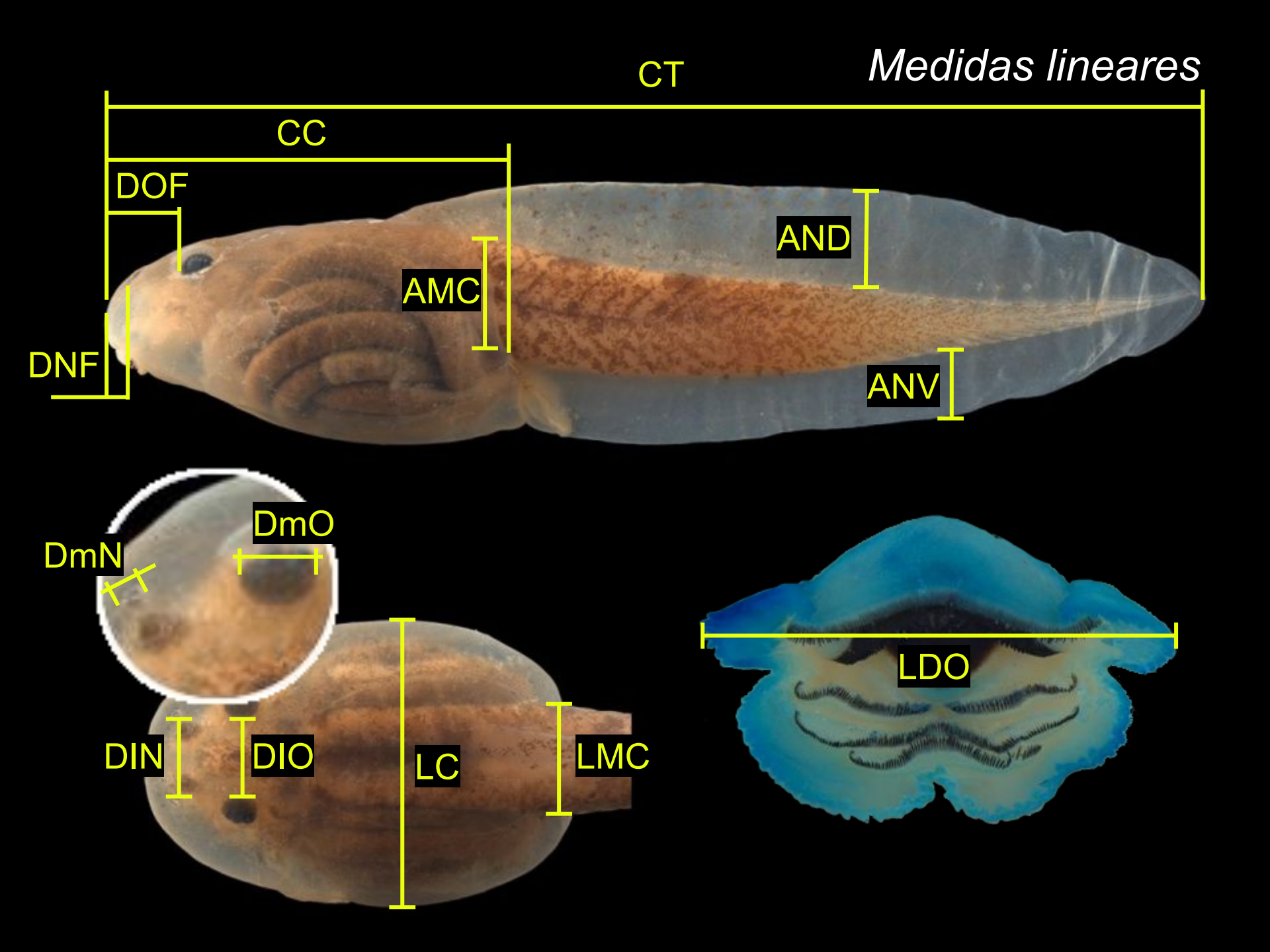
Exemplo


Crossodactylus
Phantasmarana
Hylodes
Megaelosia


± 128,0 mm
gênero *Phantasmarana*

Exemplo

Será que essas espécies são morfologicamente diferentes, ou sua diferença é apenas uma questão de escala?


Medidas lineares
CT
CC
DOF
DNF
AMC
AND
ANV
DmO
DmN
DIN
DIO
LC
LMC
LDO

Hora de praticar:

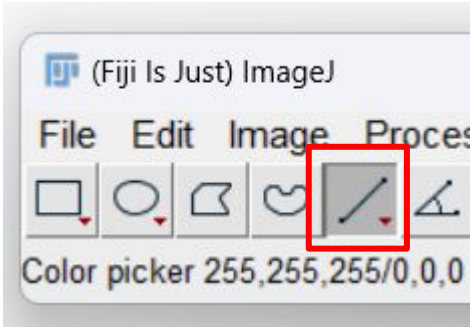
https://imagej.net/software/fiji/downloads

https://cran.r-project.org/
https://posit.co/download/rstudio-desktop/

Planilha: shorturl.at/lIfCw
Fotos: shorturl.at/eKIZh

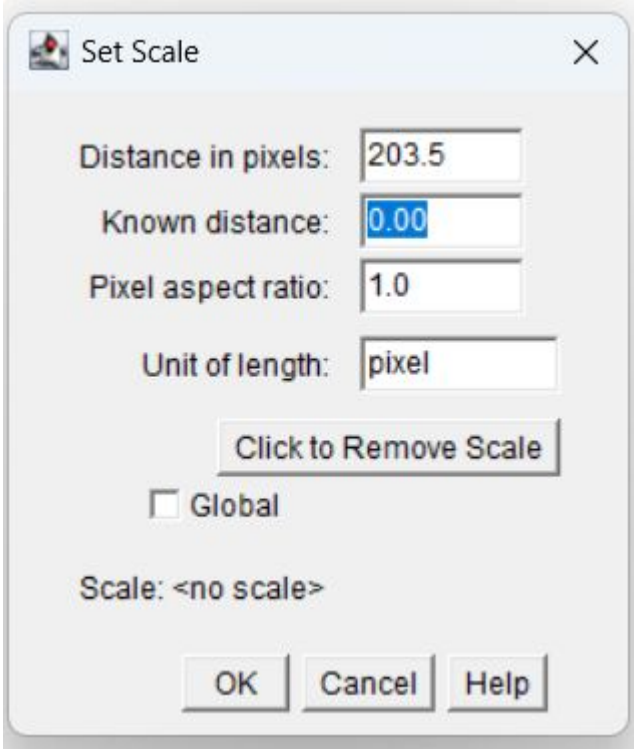
0. File > Open > Navegar até a pasta

1. Clique na linha reta



Indique a escala da foto

2. Analyze > Set Scale



3. Criar nova reta para a medida desejada > Ctrl + M

Duas abordagens:

1. Usar os resíduos do modelo

```
modelo <- gls(medidas~size)
prcomp(modelo$residuals)
```

2. Usar uma transformação por
   média geométrica