The *Grande Odalisque* by Ingres
or the woman with 10 lumbar vertebrae

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Paris, France
Jean-Auguste Ingres
The « Grande Odalisque » - 1814
Criticized for its faulty anatomy

- Lack of bony or muscular reliefs...
- Skinny arms of unequal length...
- Left thigh in a wrong position...
- « Three lumbar vertebrae too many »
  - Oral remark of the art critic M. de Kératry
  - To Ingres’s student Amaury-Duval
This remark was successful!

- Zimbler MS. Ingres’ Odalisque: idealized beauty. *Arch Facial Plast Surg* 2000
- “Art critics have often spoken about the famous supernumerary three vertebrae of the Grande Odalisque’s back” (left, Figaro Magazine)
We have to be careful about what we are told...

- Simple measurement shows that the deformation is more important and complex
- Hence the idea to establish the number of her vertebrae by measuring the back and the pelvis of human models, relating the data to head height and transferring the measurements to the painting
The Odalisque displays anatomical landmarks!

Classical canons of proportions:
Head heigh = chin to eye \times 2

Where is the crown?

C7

Dimples

Lower margin of the buttocks
Our study: 9 models
Method

• Pilot study on 5 models: feasibility
• Study on 9 models
  – Height: 178±4 cm, BMI: 20.2±2.4
  – Informed consent
• Two successive measurements in a position matching that of the Odalisque
• Average of the 2 measures
• Height of the face (chin to crown)
• C7-T12
• T12 to dimples
• Dimples to lower margin of the buttocks
Taking into account the effect of perspective

- Two segments of identical length held at the level of the head and pelvis respectively (focal length: 50 mm)
- Coefficient of magnification to apply to the head: +9.4%
- For the back, half of it (4.7%)
Mean values of the measurements in the models

<table>
<thead>
<tr>
<th></th>
<th>Height in cm</th>
<th>Height related to head height</th>
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<tbody>
<tr>
<td>Head</td>
<td>21.8 ± 0.9</td>
<td>1</td>
</tr>
<tr>
<td>C7 - T12-L1</td>
<td>34.1 ± 1.5</td>
<td>1.56 ± 0.09</td>
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<tr>
<td>T12-L1 - dimples</td>
<td>19.3 ± 1.3</td>
<td>0.89 ± 0.07</td>
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<tr>
<td>Back (C7 - dimples)</td>
<td>53.4 ± 2.1</td>
<td>2.46 ± 0.14</td>
</tr>
<tr>
<td>Pelvis</td>
<td>20.6 ± 1.4</td>
<td>0.95 ± 0.07</td>
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</tbody>
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Measurement errors

- Head: 0.20 cm
  - IC 95%: -0.50 to +0.11 p=0.18
- Back: 2.13 cm
  - IC 95%: -2.90 to +7.17 p=0.36
- Pelvis: 0.88 cm
  - IC 95%: -0.55 to +2.30 p=0.19
Grande Odalisque

- Excessive length of back: $8.20 \pm 0.36$ cm
- Excessive length of pelvis: $6.77 \pm 0.25$ cm
- Excessive overall length: $14.97$ cm
- Comprised between $12.33$ and $17.60$ cm
Grande Odalisque

- Average height of the female lumbar spine: 15.5 cm (extrapolated from Gray’s Anatomy)
- Odalisque’s back longer than normal by the height of almost five, rather than just three, lumbar vertebrae
- Contrary to received wisdom, the excess affects lower back and pelvis, rather than being confined to the lumbar region
Why?

Yes, why?

To make it more attractive?
Ingres is known for reflecting his subjects’ social condition in his paintings. The face has been described as betraying no feeling, as being sad and indifferent or aloof and inscrutable, reflecting a complex psychological make-up...
Odalisque = woman kept in a sultan’s harem for the sultan’s pleasure

- Pelvis: a symbol of her social role
- The added 2 sacral vertebrae increase the pelvic length, magnifying its role
• The visual effect of the excess length of the back is to place the head further away from the pelvis
• Ingres may well have tried to show, in physical terms, the gulf between the woman’s condition (the hypertrophied pelvis) and her innermost thoughts and feelings (the resigned face)
Did you enjoy?
Thank you!