How big should this object be? Perceptual influences on viewing-size preferences

Yi-Chia Chen\textsuperscript{1,2}, Arturo Deza\textsuperscript{1,3}, & Talia Konkle\textsuperscript{1} (\textsuperscript{1}Harvard University, \textsuperscript{2}UCLA, \textsuperscript{3}MIT)

Question

![Looks wrong! Why?](image)

Possibilities

<table>
<thead>
<tr>
<th>Conflict with Knowledge?</th>
<th>Perceptual Disfluency?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Small" /></td>
<td><img src="image" alt="" /></td>
</tr>
</tbody>
</table>

Experiment (\(N = 15\))

Similar size preference For unrecognizable texture?

1. Adjustment
   Intact images
   Size preference

2. Forced Choice
   Canonical vs.
   Bigger/Smaller?

Experiment Results

- 0% 25% 50% 75% 100%
- Intact Texform
- Chosen Canonical

Conclusions

Size preference Without Knowledge access

Visual features can Drive canonical size

Stimuli: Texforms

- Texture Synthesis Algorithm
  - Freeman & Simoncelli, 2011
  - Long, Yu, & Konkle, 2018
- Local Pooling region
  - Preserve coarse shape & texture
  - Unrecognizable (knowledge)

Experiment Details

- Different stimuli
- \(N = 15\)

Replication (\(N = 15\))

- Choose between Intact Texform
- Visual features can Drive canonical size

Email: yichiachen@ucla.edu
dez@mit.edu
tkonkle@fas.harvard.edu

Website: [https://ycc.vision/](https://ycc.vision/)
[https://konklab.fas.harvard.edu/](https://konklab.fas.harvard.edu/)