

Aesthetic Experience is Influenced by Causality in Biological Movements

Yi-Chia Chen¹, Frank Pollick², & Hongjing Lu¹

¹ **UCLA**

²  University of Glasgow

Question

Aesthetics of Walks



Preferences in
Biological Movements
or
General Motions

Stimuli — Point-light Walkers



(1 walker)

Scramble
Joint positions
→
Keep
Trajectories



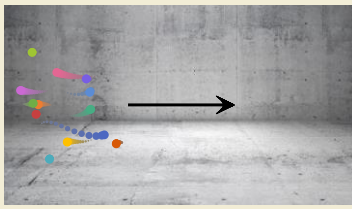
(20 versions)

Isolate **perceptual features**
From semantic information

Manipulations — Causal Features

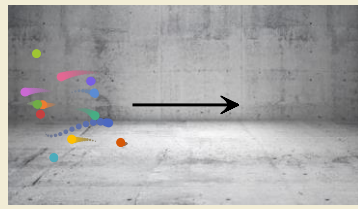
Upright Trajectories

Exhibit
Gravitational acceleration



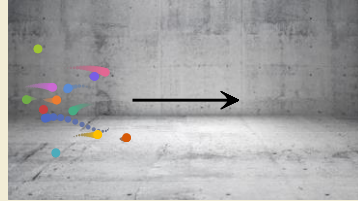
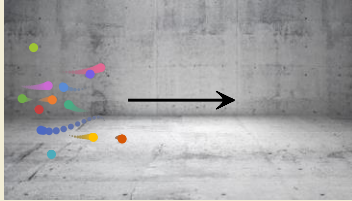
Inverted Trajectories

Defy gravity



Global motion
Congruent
With propelling forces

Global motion
Incongruent
With propelling forces
(as in Moon Walking)



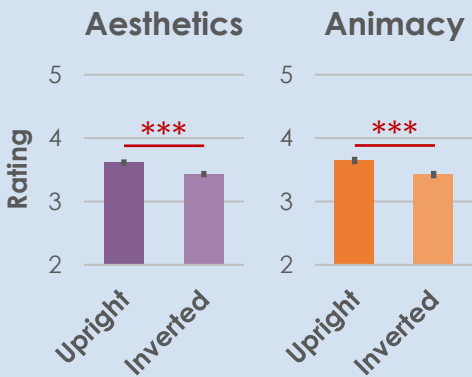
Expt 1 (N = 40)

Expt 2 (N = 78)

Aesthetic Rating: How visually pleasing/good/beautiful?

Animacy Rating: How lifelike/giving an impression of something alive?

Experiment 1

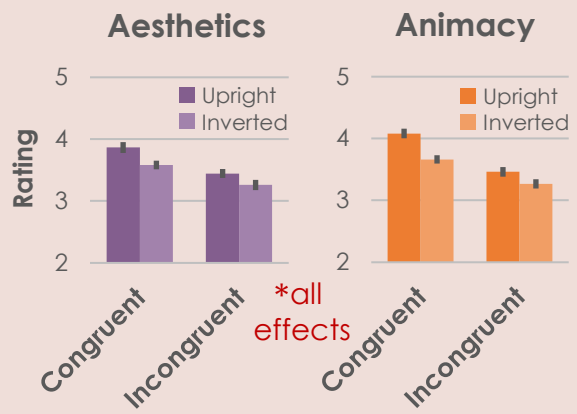


Individual Correlation

Aesthetic vs. Animacy

$M(\text{Pearson's } r) > .18^{***}$

Experiment 2

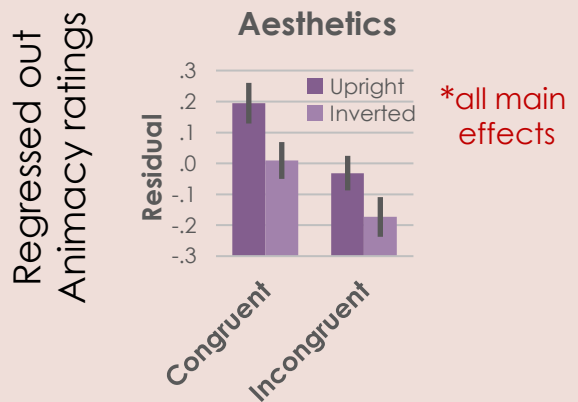
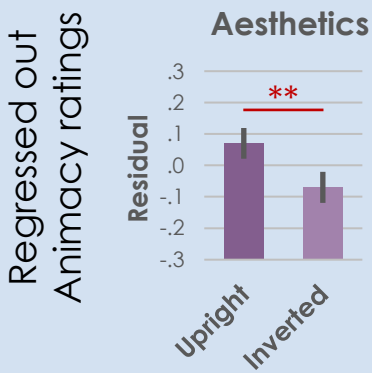


Individual Correlation

Aesthetic vs. Animacy

$M(\text{Pearson's } r) > .13^{**}$

Biological motion looks better and more alive!



Causal movements in general look better as well!

Conclusions

Visual processes contribute to aesthetics of motions

Specialized mechanisms for **animate agents**
& **general motion** perception

We have a taste for **causality**!