Vase or Face?

Controlling Perception to Investigate Crowding

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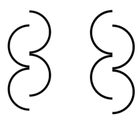
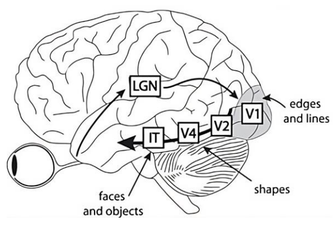
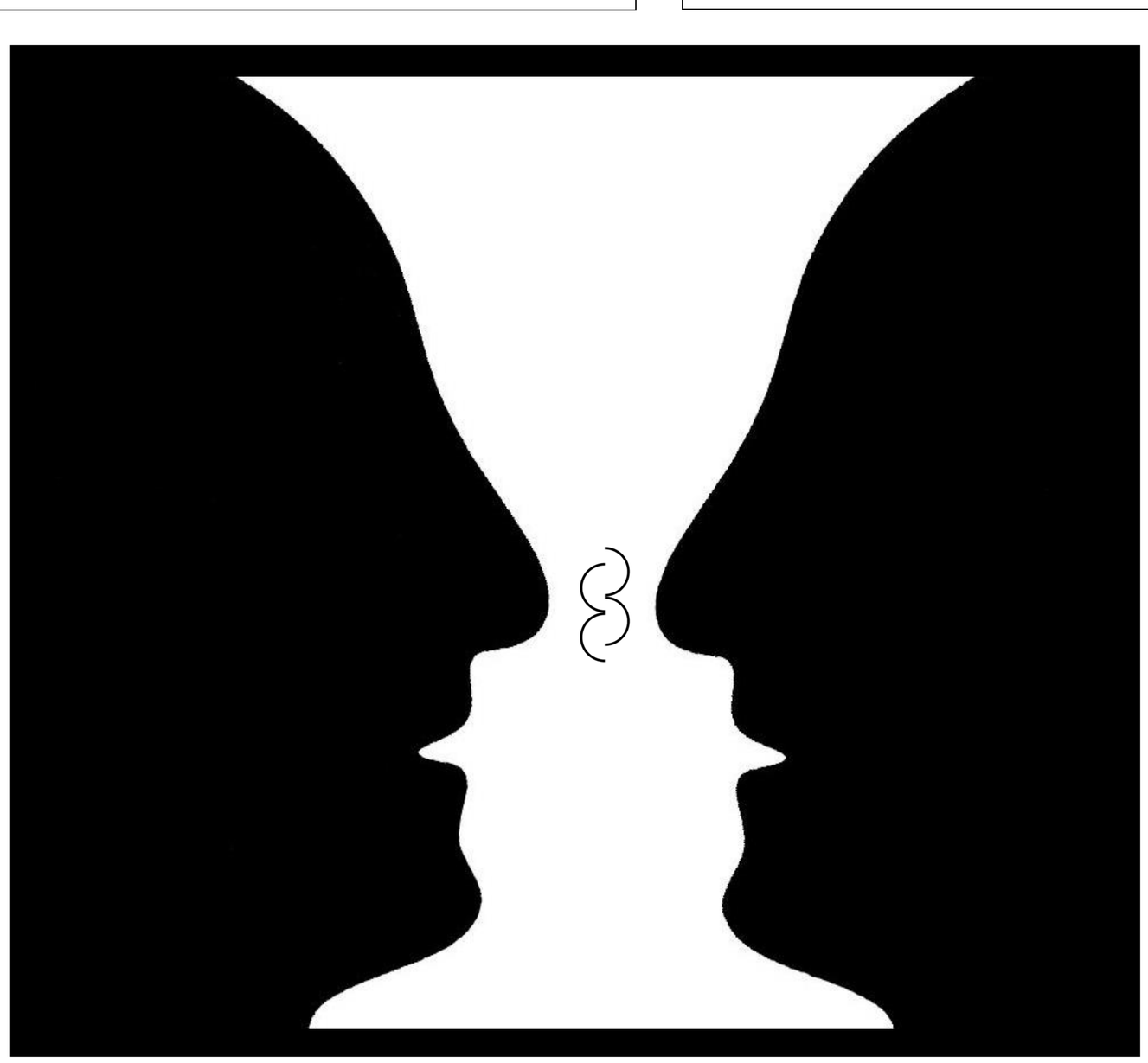
Does the Rubin's vase/face illusion cause crowding?

Visual crowding is a phenomenon where objects are rendered unrecognizable in clutter (see on the right).
Crowding happens only when the features of the objects are similar enough. Hence, a new stimulus was designed to match the vase/face contours:



Bistable images like the Rubin's illusion on the right can be alternatively perceived in two distinct ways. Changing perception is located in modulations as early as the V1 cortex.

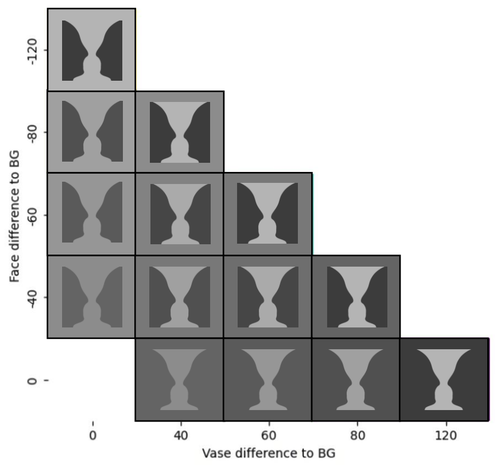




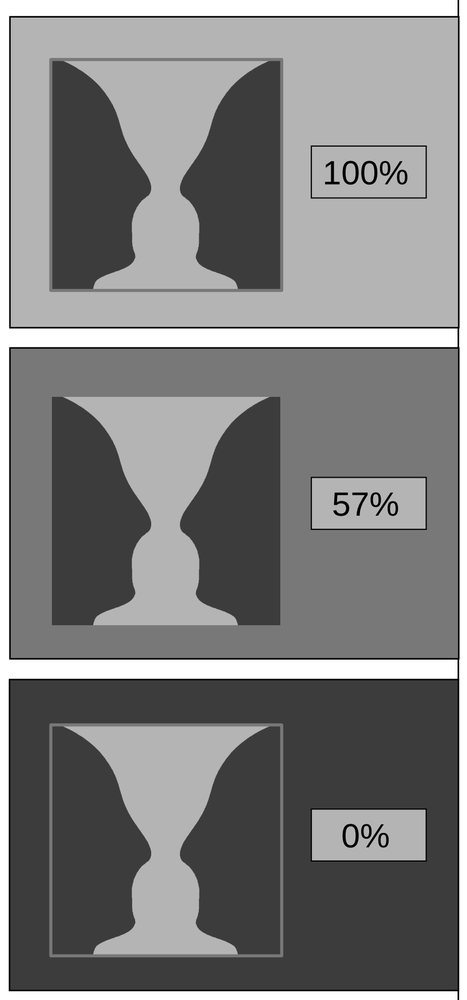
Can we influence what the observer perceives?

Changing the **background color** determines what people see.

Other key changes:
- Turning the image more vase-like.
- Reducing contrast and adding a border.

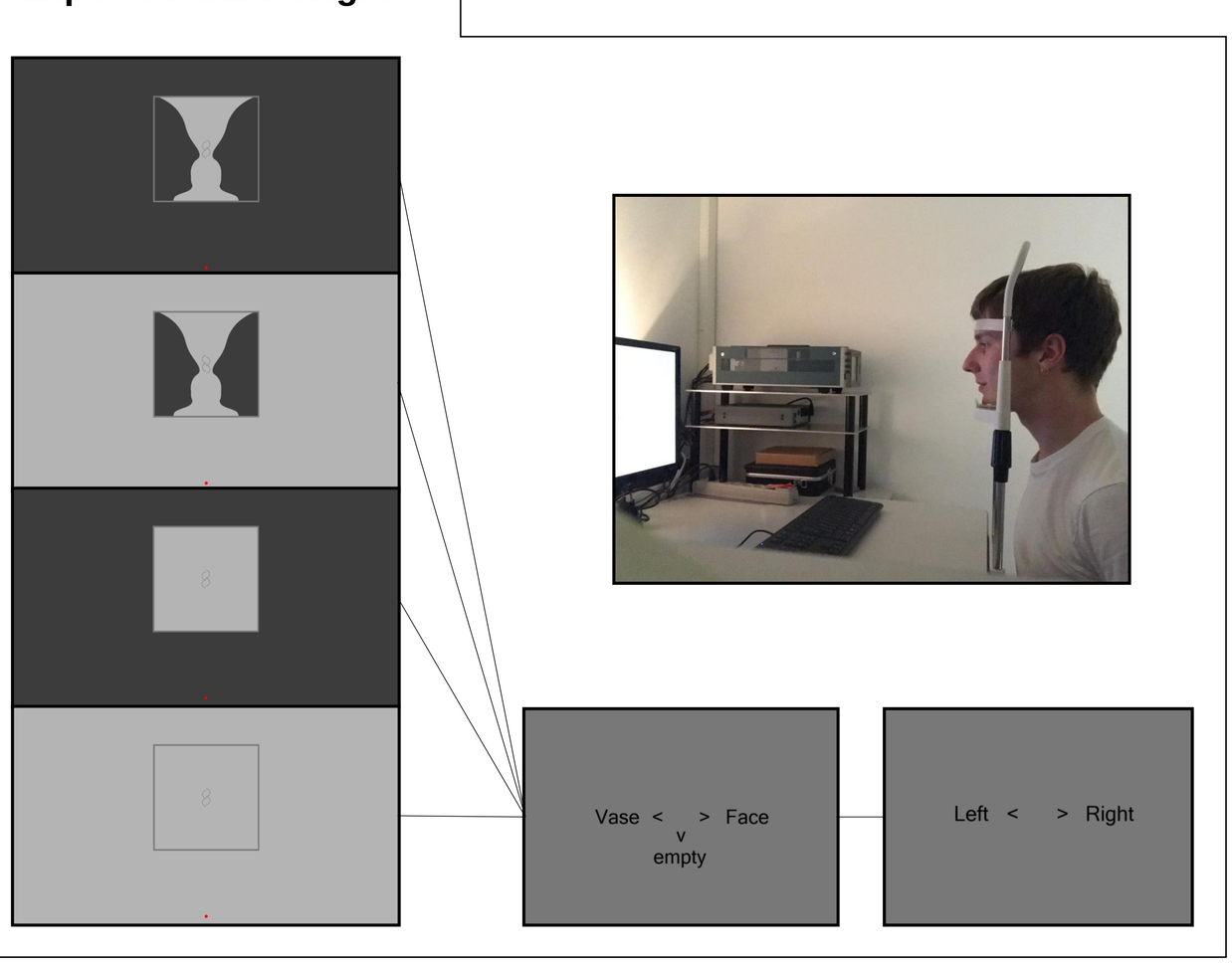


Percentage of face perceptions for each of the three backgrounds.



Is crowding different whether the observer perceives the vase or the faces?

Experimental Design:



Conclusion

For the first time, crowding is being studied using bistable images. By keeping the viewed image the same but changing perception, we gain insights into how our brain creates the world we see. We will continue investigating crowding using other bistable images, such as the illusion known as 'the Dress'.

Further Information