

# Hierarchy of cortical responses underlying binocular rivalry

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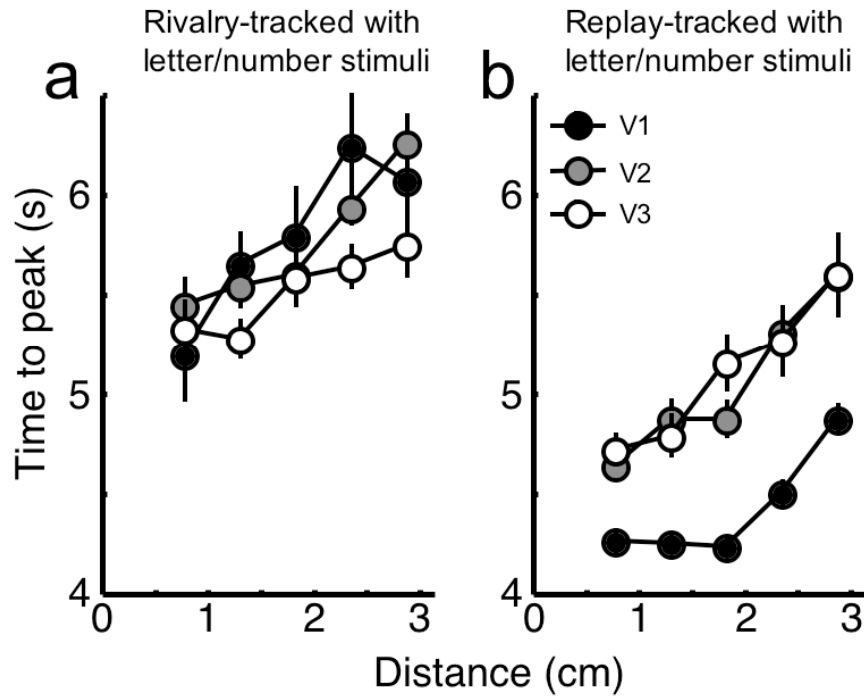
		DH	HL	SL	WL
RwTr	V1	0.60 (0.43, 0.77)	0.78 (0.52, 1.07)	0.73 (0.54, 0.92)	0.60 (0.38, 0.83)
	V2	0.40 (0.26, 0.53)	0.82 (0.67, 0.98)	1.54 (1.36, 1.71)	0.65 (0.50, 0.79)
	V3	0.97 (0.83, 1.11)	0.52 (0.35, 0.70)	1.45 (1.25, 1.64)	1.36 (1.25, 1.47)
PwTr	V1	1.05 (0.47, 1.72)	1.19 (0.85, 1.60)	0.76 (0.26, 1.28)	0.75 (0.56, 0.95)
	V2	1.01 (0.77, 1.25)	1.12 (0.63, 1.58)	1.12 (0.83, 1.43)	0.57 (0.43, 0.70)
	V3	1.02 (0.69, 1.34)	1.29 (0.72, 2.68)	1.37 (1.04, 1.71)	1.05 (0.85, 1.28)
RwDa	V1	0.62 (0.54, 0.69)	0.36 (0.28, 0.44)	0.44 (0.22, 0.64)	0.42 (0.32, 0.52)
	V2	-0.07 (-0.15, 0.01)	-0.33 (-0.45, -0.21)	-0.31 (-0.53, -0.11)	-0.05 (-0.22, 0.15)
	V3	-0.50 (-0.66, -0.34)	-0.03 (-0.25, 0.21)	-0.74 (-0.94, -0.54)	-0.70 (-0.92, -0.59)
PwDa	V1	0.76 (0.53, 0.98)	0.24 (0.09, 0.41)	0.53 (0.18, 0.86)	0.87 (0.54, 1.18)
	V2	-0.33 (-0.54, -0.10)	-0.05 (-0.68, 0.57)	-0.20 (-0.55, 0.18)	-0.61 (-1.58, 0.01)
	V3	-0.43 (-0.72, -0.16)	-0.33 (-0.81, 0.52)	-0.92 (-1.30, -0.60)	-1.02 (-1.68, -0.59)
RwTr	V1		-1.03 (-2.90, -0.52)	-0.81 (-1.12, -0.55)	-1.33 (-2.09, -0.36)
Inv	V2		0.05 (-0.31, 0.62)	-0.66 (-0.93, -0.27)	-0.85 (-1.45, -0.28)
	V3		-1.16 (-2.64, -0.35)	-1.07 (-1.58, -0.66)	-0.29 (-0.41, -0.11)
No	V1		0.15 (-0.09, 0.37)		0.07 (-0.31, 0.46)
Carrier	V2		0.14 (-0.26, 0.53)		0.21 (-0.13, 0.51)
	V3		-0.08 (-0.40, 0.31)		0.32 (0.01, 0.61)

**Supplementary Table 1.** Differences in fMRI response latencies (mean and 95% confidence interval) between the upper and lower visual quadrants, for each visual area (V1, V2, V3) and each of the four observers at NYU. RwTr, rivalry-wave tracked. PwTr, physical-wave (replay) tracked. RwDa, rivalry-wave diverted-attention. PwDa, physical-wave diverted-attention.

		DN	PN	SL
RwTr	V1	0.42 (0.26, 0.59)	0.60 (0.35, 0.97)	0.60 (0.46, 0.74)
	V2	0.54 (0.36, 0.73)	0.62 (0.42, 0.83)	0.31 (0.17, 0.45)
	V3	0.96 (0.78, 1.14)	0.74 (0.57, 0.92)	0.44 (0.29, 0.59)
PwTr	V1	0.71 (0.54, 0.89)	1.03 (0.82, 1.26)	0.91 (0.62, 1.32)
	V2	0.76 (0.58, 0.93)	0.50 (0.14, 0.89)	0.55 (0.30, 0.80)
	V3	0.84 (0.52, 1.15)	1.08 (0.55, 1.62)	0.92 (0.67, 1.17)
RwDa	V1	0.22 (0.08, 0.36)	0.71 (0.55, 0.87)	0.78 (0.56, 1.01)
	V2	-0.25 (-0.34, -0.11)	-0.19 (-0.37, 0.01)	0.35 (0.23, 0.46)
	V3	-0.54 (-0.68, -0.28)	-0.09 (-0.35, 0.22)	0.07 (-0.03, 0.17)

**Supplementary Table 2.** Differences in fMRI response latencies (mean and 95% confidence interval) between the upper and lower visual quadrants, for each visual area (V1, V2, V3) and each of the three observers at Stanford. Same conventions as

**Supplementary Table 1.**



**Supplementary Figure 1.** Traveling waves of activity in visual cortex while observers performed the perceptual latency task, in the presence of an irrelevant series of characters at fixation. (a) Rival stimuli. (b) Replay (physical wave) stimuli. Black symbols, V1. Gray symbols, V2. Open symbols, V3. Error bars, SEM across observers estimated with a bootstrap procedure (see **Methods**). The mere presentation of the characters at fixation was insufficient to disrupt the traveling waves in V2 and V3. Only when observers performed the diverted attention task the waves were eliminated or reversed (**Figs. 2–4**).