

Supporting Information

Peña et al. 10.1073/pnas.0914326107

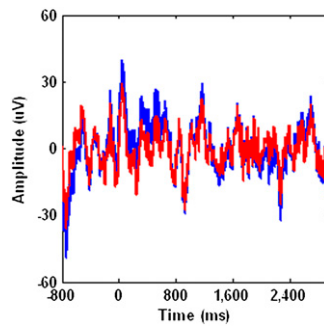


Fig. S1. Effects of the 50-Hz notch filtering. A sample of the raw EEG signal corresponding to an epoch at channel 16 is plotted without (blue line) and after (red line) the application of a 50-Hz notch filter. No significant changes were observed as a result of this procedure.

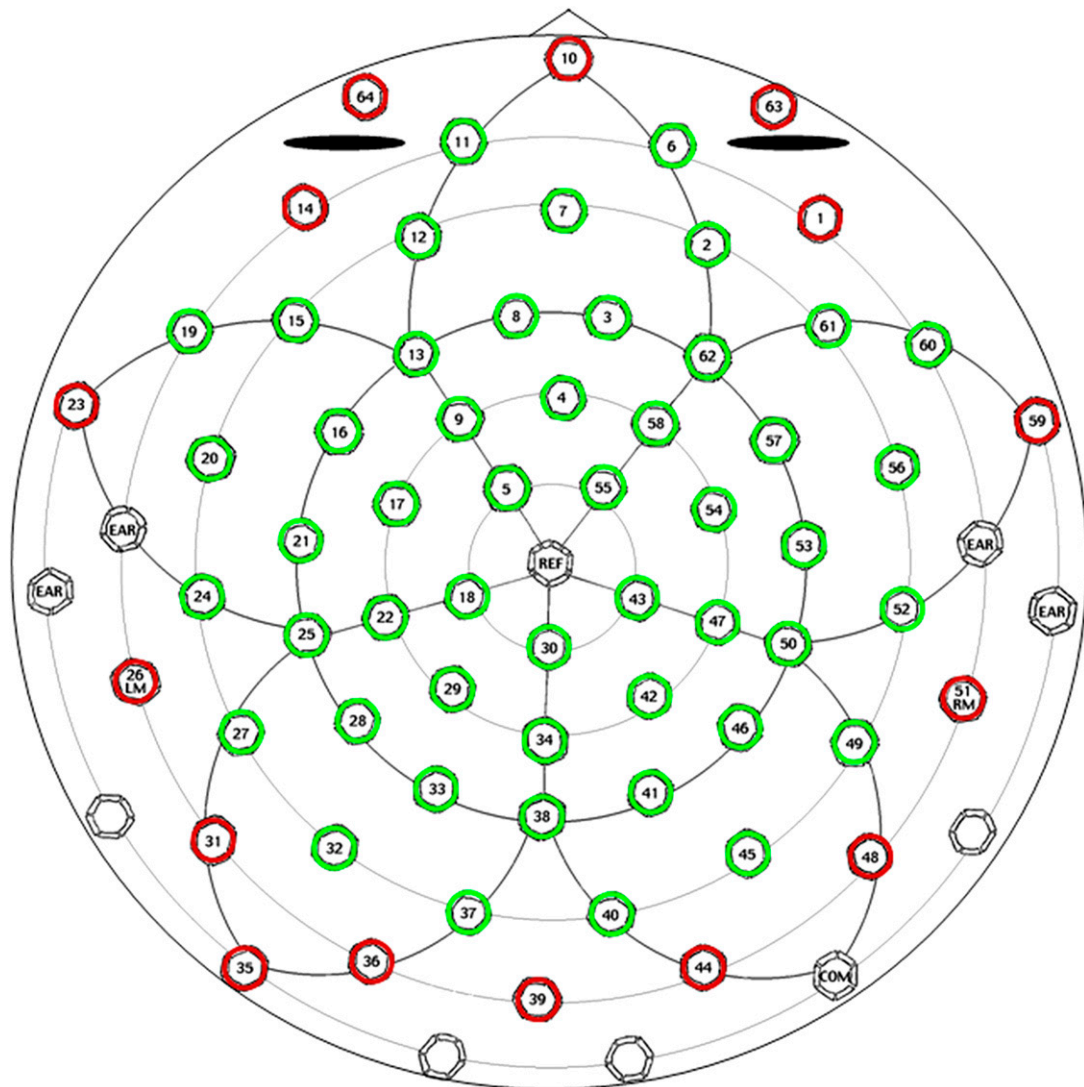


Fig. S2. Spatial distribution of the electrodes in a 64-channel infant geodesic-sensor-net EGI system. Electrode numbers 63, 64, 10, 1, 14, 23, 59, 26, 51, 31, 48, 35, 36, 39, and 44 (indicated by the red circles) were excluded from the analysis because they were frequently contaminated with artifacts. The green circle indicates the electrodes used to compute the brain oscillation activity. Noncircled locations indicate support patches.

Table S2. Clinical data from full-term and preterm infants

		Birth					CDI at 12 months		Bayley test score at 24 months	
		GA	Weight	Size	Apgar 1	Apgar 5	Comprehension,no. words	Production,no. words	MDI	PDI
FT3	Mean	39.5	3,599	49.3	9.0	9.0	76.7	4.5	96.6	105.5
	SD	1.5	350	1.2	0.0	0.0	42.4	3.9	8.5	6.3
FT6	Mean	39.6	3,587	48.5	9.0	9.0	75.8	4.7	96.9	103.5
	SD	1.3	375	1.5	0.0	0.0	40.3	3.0	13.9	15.8
PT6	Mean	28.5	1,318	38.0	7.9	8.9	77.1	4.7	98.3	103.9
	SD	1.5	229	2.4	0.9	0.6	55.2	3.4	7.2	9.8
PT9	Mean	28.7	1,327	39.0	7.8	8.8	80.0	4.7	98.3	103.9
	SD	1.5	219	1.7	1.0	0.4	67.0	4.0	7.1	9.2

CDI score was obtained from parents. Bayley test scores: Mental Developmental Index (MDI) and Psychomotor Developmental Index (PDI). CDI and Bayley test scores in preterm infants correspond to 12 or 23 months, respectively, after the term age. GA, gestational age at birth.

Table S3. Full-term infants

Group	Participant no.	GA, weeks	Months of broadcast speech exposure at time of test, since infant went home
FT3	1	41.0	3.2
	2	38.0	3.5
	3	40.0	3.4
	4	39.0	3.6
	5	40.0	3.2
	6	38.0	3.5
	7	38.0	3.6
	8	39.0	3.2
	9	39.0	3.4
	10	38.0	3.6
	11	41.0	3.3
	12	38.0	3.4
	13	41.0	3.1
	14	42.0	3.5
	15	40.0	3.1
	Mean	39.5	3.4
	SD	1.5	0.2
FT6	1	40.0	6.1
	2	38.0	6.0
	3	41.0	6.0
	4	38.0	5.9
	5	39.0	6.0
	6	40.0	6.0
	7	39.0	6.2
	8	41.0	6.0
	9	38.0	5.8
	10	39.0	6.4
	11	40.0	5.7
	12	41.0	5.9
	13	42.0	5.9
	14	38.0	6.0
	15	40.0	6.0
	Mean	39.6	6.0
	SD	1.3	0.2

At the time of the test, FT3 infants had been exposed for less than 4.5 months to broadcast speech, whereas the FT6 participants had heard broadcast speech for more than 4.5 months. GA, gestational age at birth.

Movie S1. A sound sample of a single utterance played first in Italian, second in Japanese, and third in Spanish. Utterances are separated by 3 s of silence. The movie is digitalized at 22,050 Hz, 16 bit, mono, and its size is 630 kb.

[Movie S1 \(MOV\)](#)