How vision shapes touch

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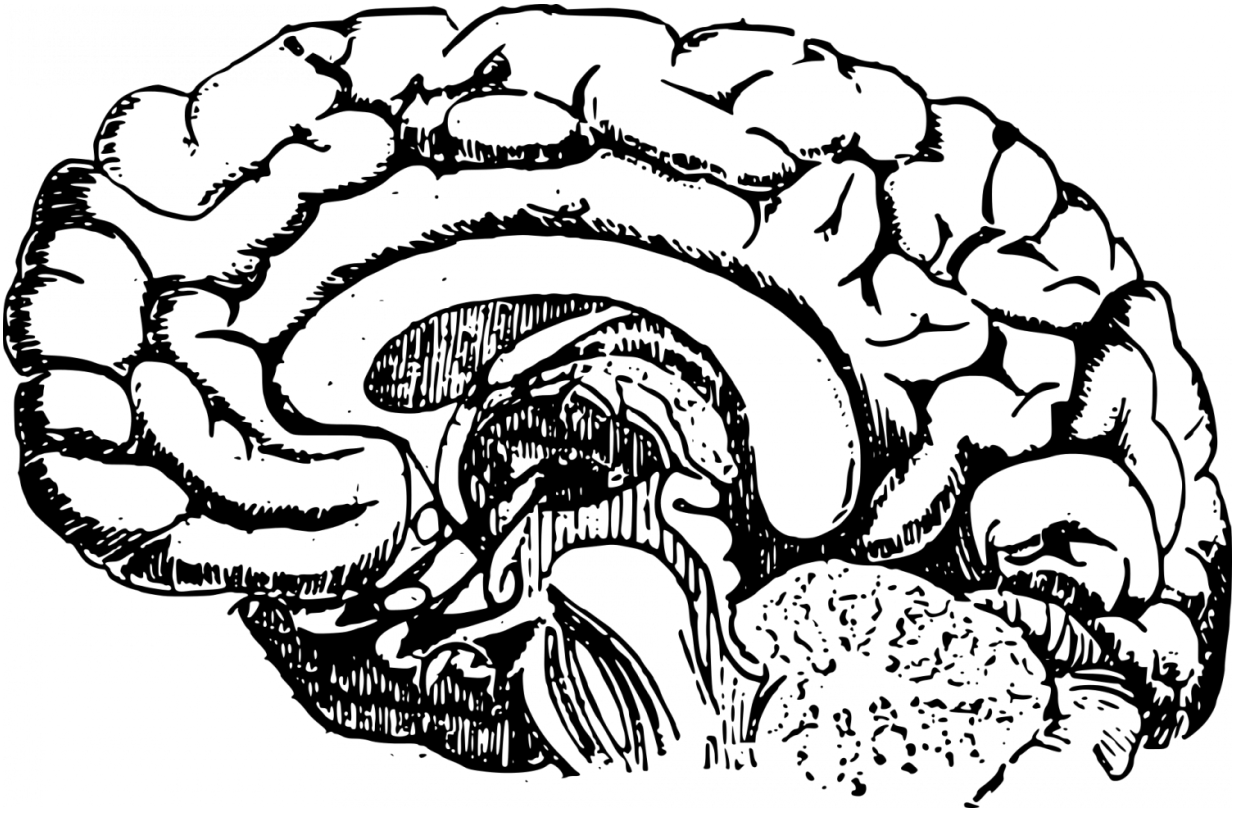

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A neuroimaging study published in the *Journal of Neuroscience* reveals the neural network responsible for attributing the sense of touch to a location in space develops and operates differently in individuals blind from birth compared to sighted individuals.

Virginie Crollen, Olivier Collignon and colleagues replicated a previous finding in 11 blindfolded, sighted individuals, who performed much worse on a task that asks them to discriminate the order of air blasts applied to both their left and right fingers when their hands are crossed. The eight participants blind from birth did not show this deficit.

Using functional resonance imaging, the authors found that in sighted individuals performing this task with crossed hands elicited greater activity in parietal and premotor brain areas than with uncrossed hands. Although the blind individuals did not display any regional differences in activity between the two postures, the functional connectivity between their frontal and parietal brain regions was stronger in the crossed position compared to sighted participants, which may contribute to their superior task performance in this posture. Overall, the study highlights a crucial role of visual experience in the development of the brain network underlying the localization of touch.

More information: Visual experience shapes the neural networks remapping touch into external space, DOI: 10.1523/JNEUROSCI.1213-17.2017

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