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Cover legend: Coronal view of one hemisphere of a *reeler* mutant mouse brain produced by merging four pseudocolored micrographs taken at the level of the primary somatosensory “barrel” cortex. Cells are labeled with markers that in wild-type mice identify distinct cortical layers: yellow, layer II/III; green layer IV; blue, layer V. *In situ* hybridization for these markers in the *reeler* brain reveals a more-or-less random expression pattern, rather than distinct layers. This challenges the hypothesis that *reeler* cortex develops in an “outside-in” pattern, according to which the cortical layers should be present, but inverted. The immediate early gene *c-Fos* (red) identifies cells activated after exploration of a novel environment. For more information, see the article by Wagener et al. in this issue (pages 15700–15709).

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