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Cover  The class IV subtype of *da* sensory neurons extends dendrite arbors that tile the body wall of the *Drosophila* larvae. The dendrite arbor of a single neuron normally fully covers a segment of territory, while individual dendrite branches avoid crossing over one another. However, after laser injury to all of the dendrite branches, while neurons are capable of regenerating new dendrites, the regenerated dendrites only partially cover the body wall territory and fail to avoid crossing over sister branches of the same neuron. Shown here is a class IV *da* neuron expressing a membrane-tagged GFP at 72 h after all of the dendrites were severed and new branches were allowed to regenerate (cell body in the middle, axon extending downward, and dendrite branches all around). [For details, see Thompson-Peer et al., p. 1776.]