The question of what makes us human has fascinated humankind throughout modern history. Today, we view the brain as the core component of human identity, and an understanding of this organ is consequently essential for answering why we as a species are what we are. What distinguishes humans from other species is largely thought to reside in the unique features of brain development, especially in the wiring of the immensely complex neural circuits that underlie our remarkable cognitive and motor abilities. However, the unique innovations driving the formation of these intricate neural circuits may also increase our susceptibility to certain neurological and psychiatric disorders. In my presentation, I will describe some of our recent efforts to understand the molecular and cellular mechanisms by which the connections between neurons are formed within the developing cerebral cortex, the part of the brain that processes senses, commands motor activity, and underlies higher-order cognitive functions. I will also present evidence on how this complex developmental process may have evolved and become compromised in human disorders.