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BabyX is an autonomously animated psychobiological simulation of an infant that reacts and learns in real time.

Face-to-face interaction is vital to social learning, but detailed interactive models that capture the richness and subtlety of human expression do not currently exist. BabyX is a step toward this goal. It is an experimental computer-generated psychobiological simulation of an infant that combines models of the facial motor system and theoretical computational models of the basic neural systems involved in interactive behavior and learning. These models are implemented in a novel modeling language for neural systems designed for animation and embodied through advanced 3D computer graphics models of an infant's face and upper body. The model reacts in real time to visual and auditory input, and its own evolving internal processes as a dynamic system. The live state of the model that generates the resulting facial behavior can be visualized through graphs and schematics or by exploring the activity mapped to the underlying neuroanatomy.