

**>> Response for Nurses and Pediatricians** (from page 172) While much of language development is indeed hardwired, many experts assert that exposure to language is required. You don't need to convince Bob and Joan of this point, though—just convince them that their baby will be happier if they talk to him.

#### language acquisition device (LAD)

Chomsky's term for a hypothesized mental structure that enables humans to learn language, including the basic aspects of grammar, vocabulary, and intonation.

According to theory two, then, social impulses, not explicit teaching, lead infants to learn language “as part of the package of being a human social animal” (Hollich et al., 2000). They seek to understand what others want and intend; “children acquire linguistic symbols as a kind of by-product of social action with adults” (Tomasello, 2001).

### Theory Three: Infants Teach Themselves

A third theory holds that language learning is innate; adults need not teach it, nor is it simply a by-product of social interaction. The seeds of this perspective were planted soon after Skinner proposed his theory of verbal learning. Noam Chomsky (1968, 1980) and his followers felt that language is too complex to be mastered merely through step-by-step conditioning. Although behaviorists focus on variations among children in vocabulary size, Chomsky focused on similarities in language acquisition—the universals (see Chapter 2), not the differences.

Noting that all young children master basic grammar at about the same age, Chomsky cited this *universal grammar* as evidence that humans are born with a mental structure that prepares them to seek some elements of human language—for example, the use of a raised tone at the end of an utterance to indicate a question. Chomsky labeled this hypothesized mental structure the **language acquisition device (LAD)**. The LAD enables children to derive the rules of grammar quickly and effectively from the speech they hear every day, regardless of whether their native language is English, Thai, or Urdu.

Other scholars agree with Chomsky that infants are innately ready to use their minds to understand and speak whatever language is offered. This idea does not strip languages and cultures of their differences in sounds, grammar, and almost everything else, but the basic idea is that “language is a window on human nature, exposing deep and universal features of our thoughts and feelings” (Pinker, 2007, p. 148).

The various languages of the world are all logical, coherent, and systematic. Infants are primed to grasp the particular language they are exposed to, making caregiver speech “not a ‘trigger’ but a ‘nutrient’” (Slobin, 2001, p. 438). There is no need for a trigger, according to theory three, because words are expected by the developing brain, which quickly and efficiently connects neurons to support whichever language the infant hears. Thus, language itself is experience-expectant, although obviously the specific language is experience-dependent.

Research supports this perspective as well. As you remember, newborns are primed to listen to speech (Vouloumanos & Werker, 2007) and all infants babble *ma-ma* and *da-da* sounds (not yet referring to mother or father). No reinforcement or teaching is needed; all infants need is for dendrites to grow, mouth muscles to strengthen, neurons to connect, and speech to be heard.

Nature even provides for deaf infants. All 6-month-olds, hearing or not, prefer to look at sign language over nonlinguistic pantomime. For hearing infants, this preference disappears by 10 months because their affinity for gestural language is not helpful (Krentz & Corina, 2008). Deaf infants are signing by then.

### A Hybrid Theory

Which of these three perspectives is correct? Perhaps all of them. In one monograph with 12 experiments, the authors presented a hybrid (which literally means “a new creature, formed by combining other living things”) of previous theories (Hollich et al., 2000). Since infants learn language to do numerous things—indicate intention, call objects by name, put words together, talk to family mem-