However, studies examining generalization of new words in ASD have

yielded mixed findings [McGregor & Bean, 2012; Menyuk & Quill, 1985; Tager-Flusberg, 1988; Vogin-droukas, Papageorgiou, & Vostanis, 2003].

when children with ASD who have low expressive language levels [Hartley & Allen, 2014, 2015] and/or IQs below 70 [Preissler, 2008] are targeted, studies suggest impairments in extension to appropriate category members.

TD children prefer to generalize nouns by shape, rather than by other attributes such as color or texture, by about 2 years of age [Landau, Smith, & Jones, 1988]. Tek et al. [2008] and Potrzeba et al. [2015] found that children with ASD as a group did not use the shape bias to categorize novel nouns even at 4 years, although Field et al. [2015] found that children with a relatively high verbal mental age did use the shape bias (and children with a lower verbal mental age did not), and Potrzeba et al. [2015] reported intriguing associations between vocabulary size and fine motor skill in a subset of children with ASD who did show evidence of the shape bias.

Another question demanding additional study is why semantic networks appear to be different in ASD. It is not yet clear whether the differences are qualitative or quantitative, conceptual or linguistic. One possibility is that poor memory for and integration of new word meanings into children’s existing knowledge is partially to blame. (Henderson, Powell, Gareth, & Norbury[2014] argue that word “form” integration is impaired in ASD; whether word meaning integration is as well remains to be seen.) Memories, including memories for words, undergo consolidation over time, and during this memory consolidation process they become integrated with existing lexical knowledge. If this is impaired, it will be important to study the role of sleep in learning and memory in ASD. Sleep problems are pervasive in ASD [e.g., Goodlin-Jones, Tang, Liu, & Anders, 2008; Hollway & Aman, 2011; Malow et al., 2006; Richdale, 1999], suggesting that memory consolidation may proceed differently in these children.

We suggest that while children with ASD have the same fundamental machinery for lexical development as typically developing children, there are apparent differences in the efficacy of these learning mechanisms due to (1) disruptions in supporting systems; and (perhaps causing) (2) differences in children’s intake of the language input they receive. With regard to the former, even for typically-developing children, attendant cognitive systems like attention, memory, cognitive control, and processing speed develop throughout early childhood [e.g., Courage & Cowen, 2009; Fernald et al., 1998; Mazuka, Jincho, & Oishi, 2009; Trueswell, Sekerina, Hill, & Logrip, 1999], and therefore the representations that children form from the input are “filtered” through these systems [e.g., Omaki & Lidz, 2015].

An important issue for future research, then, is how we can increase children’s intake from the input—that is, we must identify under what conditions children with ASD benefit from information available in their environment, and how we can maximize those condition.