

Toto the Robot



Figure 1. Toto, front view.



Figure 2. Toto, rear view.

Toto the Robot was created so that children could give grammaticality judgments by interacting with a puppet rather than talking directly to an experimenter. Original source for description (with no images reproduced): Stringer, D. (2005). *Paths in First Language Acquisition: Motion through Space in English, French and Japanese*. Doctoral dissertation, University of Durham.

This prop was designed to facilitate the delivery of pre-recorded linguistic stimuli. The pre-recording of stimuli controls for the variation in prosody which is inevitable across multiple trials in more naturalistic interaction between the experimenter and the participants. The original concept was a friendly-looking hand puppet or cuddly toy, large enough to accommodate the tape-recorder (perhaps with some stuffing removed) but not so large as to scare younger test subjects. However, most of the proto-props did not allow enough sound to escape, or muffled the recording to an unacceptable degree. An additional concern was that the metallic clicking and whirring of a tape recorder does not sound particularly natural coming out of the mouth of a baby dinosaur or giant rabbit.

Toto is in fact a large, hollow plastic container for toy building blocks, in the form of a boy with a builder's hat with bolts on the sides and a chunky belt, measuring 45 x 25 x 20cm. Once emptied of its contents, a hole was cut in the back to allow the tape-recorder to be held inside, and the figure was spray-painted. With his metallic silver face and body, and his gold hat and belt, Toto has proven very convincing to 3- and 4-year-old test subjects. When he introduces himself, they often spontaneously reply 'Hello'.

Toto is introduced to children as being very 'shy'. This strategy has a number of advantages. First, his conversational ability is limited to the recording, so he cannot start chatting to the children. His shyness, as well as his being a robot, helps account for his lack of verbal charm. Second, some younger children may recognize in Toto a shared emotion, given their own shyness in the experimental environment. Third, the idea of verbal shyness seems to correspond with his attempts to learn language, sometimes getting it wrong. The idea of shyness as a puppet characteristic is discussed by Thornton (1996: 82-83), who mentions other, more interactive applications of this trait, such as the increased willingness of the children to deal with the puppet given that it doesn't want to talk to adults. Successful puppets mentioned by Thornton include a snail which occasionally withdraws into its shell, and a newborn dinosaur that has just broken out of its egg.