Reciprocal Ascription of Intentions Realized in Robot-human Interaction

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One of the promising strains of humanoid robotics is that which focuses on explicating and reproducing "inner" cognitive functions of humans. This approach is motivated by an ambitious aim of realizing a human-like mind in a robot. In this general context, we have been working on the mechanism of joint attention, the ability of which infants acquire during the earlier stage of development. We already succeeded in constructing a robot which can engage in joint attention activity of an elementary level.

In a more matured stage, however, humans ascribe intentions to each other in joint attention. In order to realize this process in a robot, it is not sufficient for them merely to acquire the ability to follow others' eye direction. Our point is that it is necessary to implement in a robot the relevant inferential mechanism which involves an apparatus for emotion-detection and object-categorization. In our presentation, we will show how this mechanism can work well in our infant-robot.