

Abstract of thesis entitled:

Do 18-month-olds Really Understand False Beliefs about Object Identity?

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for the degree of MPHIL

at The Chinese University of Hong Kong in July 2017

Recent research has shown that infants are able to infer others' knowledge states in spontaneous-response false-belief tasks. This finding has been widely regarded as evidence for an early theory of mind (ToM) in infants. The conclusion, however, has been challenged by others who think that excellent statistical learning skills might sufficiently explain infants' success in these tasks. The current research aims to discern these two accounts by manipulating the animacy of environmental cues (a human agent vs. an inanimate light cue) and the falseness of the beliefs (true/false belief vs. dual true beliefs). Experiment 1 confirmed the previous finding that 18-month-olds could help a human agent select reality objects (e.g., sponge) when she was present during the identity demonstration of some deceptive objects (e.g., a rock-like sponge), but they selected the appearance objects (e.g., rock) if the agent was ignorant about the true object identity. A similar pattern was found in Experiment 2 where the presence and absence of the human agent were replaced by the on and off settings of the light cue, although in this case the tendency was less clear. The infants tended to select the reality object for the agent who watched the identity demonstration in a bright context, but they chose the appearance object if the agent witnessed the demonstration with all the lights switched off. In Experiment 3 the deceptive objects were replaced by dual-identity objects (e.g., dual-

head fork and spoon tableware) rendering two true beliefs coexist in the mind of the agent. However, when the agent had the access to both real identities, infants showed a preference for the objects representing the identity revealed last (i.e., 2nd-identity objects), suggesting that they might process the association between objects and the agent instead of analyzing the agent's mind content. The present findings challenge the previous consensus that ToM is present in infants, and these findings were insofar the first to provide evidence in favor of a behavioral explanation for infants' apparent false-belief reasoning.

Keywords: infancy, theory of mind, associative learning, appearance-identity distinction

中文摘要

最近的研究表明，嬰兒能夠在自然反應的錯誤信念任務中推斷他人的心理狀態。這一發現被廣泛認為是嬰兒早期心智理論（ToM）的證據。然而，這個結論受到了其他一些人的挑戰，他們認為優秀的統計學習能力可以充分地解釋嬰兒在這些任務中的成功。目前的研究旨在通過操縱線索的生命性（有生命的人對無生命的燈）和信念的真假性（真/假信念對雙重真實信念）來區別這兩種不同的解釋。實驗一證實了先前的發現：如果一名成年人出現在欺騙性物體（如像石頭的海綿）的身份演示過程中，18個月大的嬰兒可以幫助這名成年人選擇真實物體（如海綿）。但是如果此人不知道真實的物體身份，嬰兒則會選擇外表物體（如石頭）。在實驗二中，人的出現和消失會被燈的開關所取代，但嬰兒表現出了類似的反應模式，雖然在這種情況下嬰兒的反應趨勢沒有之前明顯。如果物體的身份在光亮的環境中被展示，嬰兒傾向於選擇真實物體。但如果物體的展示是在熄燈的環境中進行，他們會為成年人選擇外表物體。在實驗三中，欺騙性物體被雙重身份的物體所取代（如勺叉雙頭餐具），使得兩個真正的信念共存於成人的頭腦中。然而，當成年人了解了兩種真實的身份，嬰兒表現出對代表最後一種被展示的身份的物體（即第二身份物體）的偏好。這表明嬰兒可能只是處理物體與人之間的聯繫，而沒有分析他人頭腦中的思想內容。當前的發現挑戰了先前關於ToM存在於嬰兒之中的共識，這些發現將第一次為嬰兒表面的錯誤信念提供了行為解釋上的證據。

關鍵字: 嬰兒期 心智理論 聯想學習 外表身份的區別