# ENABLING CO-REGULATION FOR LONG-TERM ENGAGING SEMI-STRUCTURED CONVERSATIONS
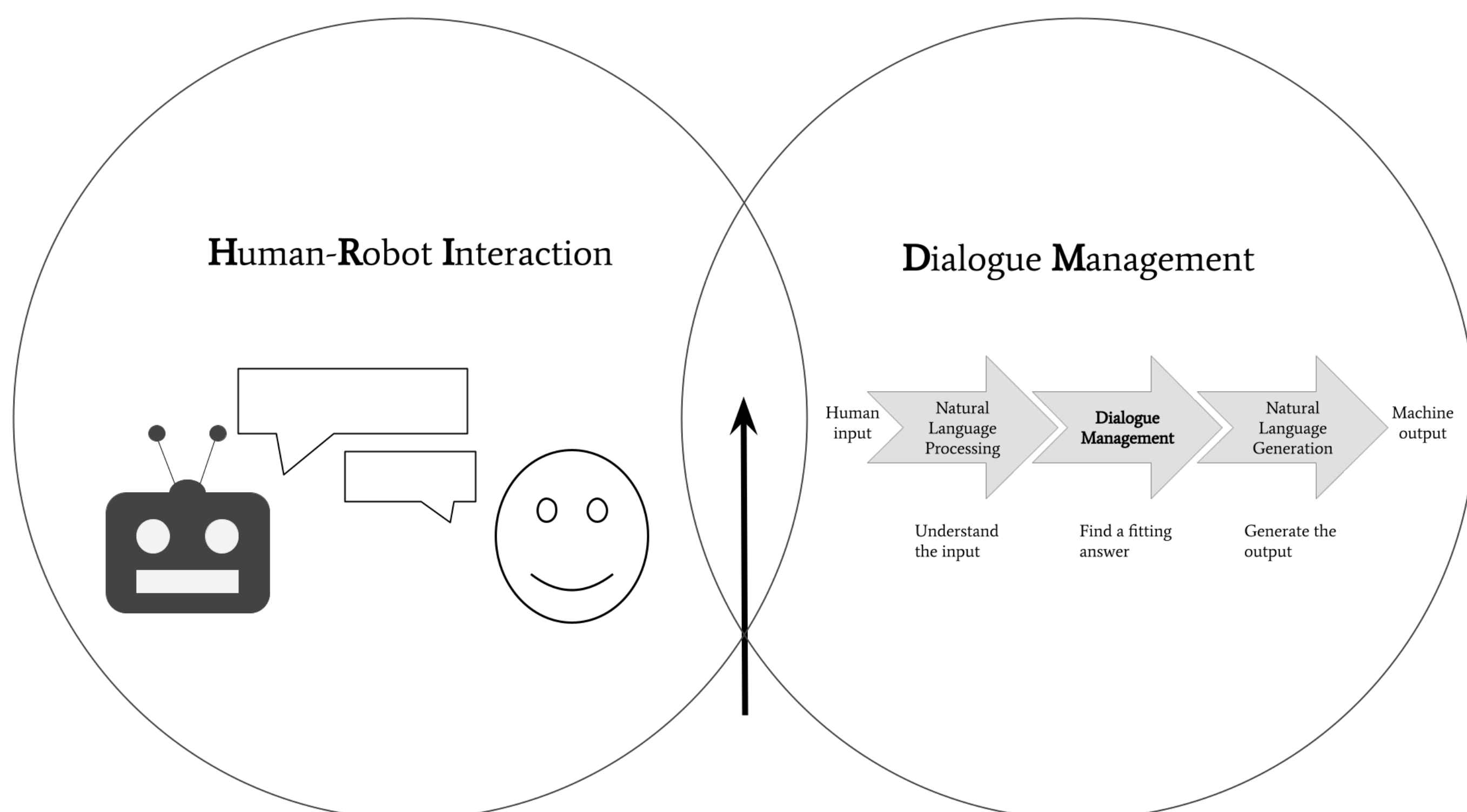
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Enable both, user and robot, to take control of the conversation in a fixed and semi-structured context.

**Human-Robot Interaction**

**Dialogue Management**

Human input → Natural Language Processing → Dialogue Management → Natural Language Generation → Machine output

Understand the input | Find a fitting answer | Generate the output

**Goals:**

- Allow more co-regulation for the user.
- Improve the conversation capabilities.
- Move from structured conversations to semi-structured ones.

## Structured Conversations

## Semi-structured Conversations

Patient-nurse interviews in hospitals.[1]

**Understand answers outside of the given options**
**Nurse:** Are you experiencing pain or discomfort at this time? You can answer with No / A little / Moderate / Serious / Extreme
**Patient:** The second option

**Clarification questions**
**Nurse:** Can you perform light household tasks completely independently?
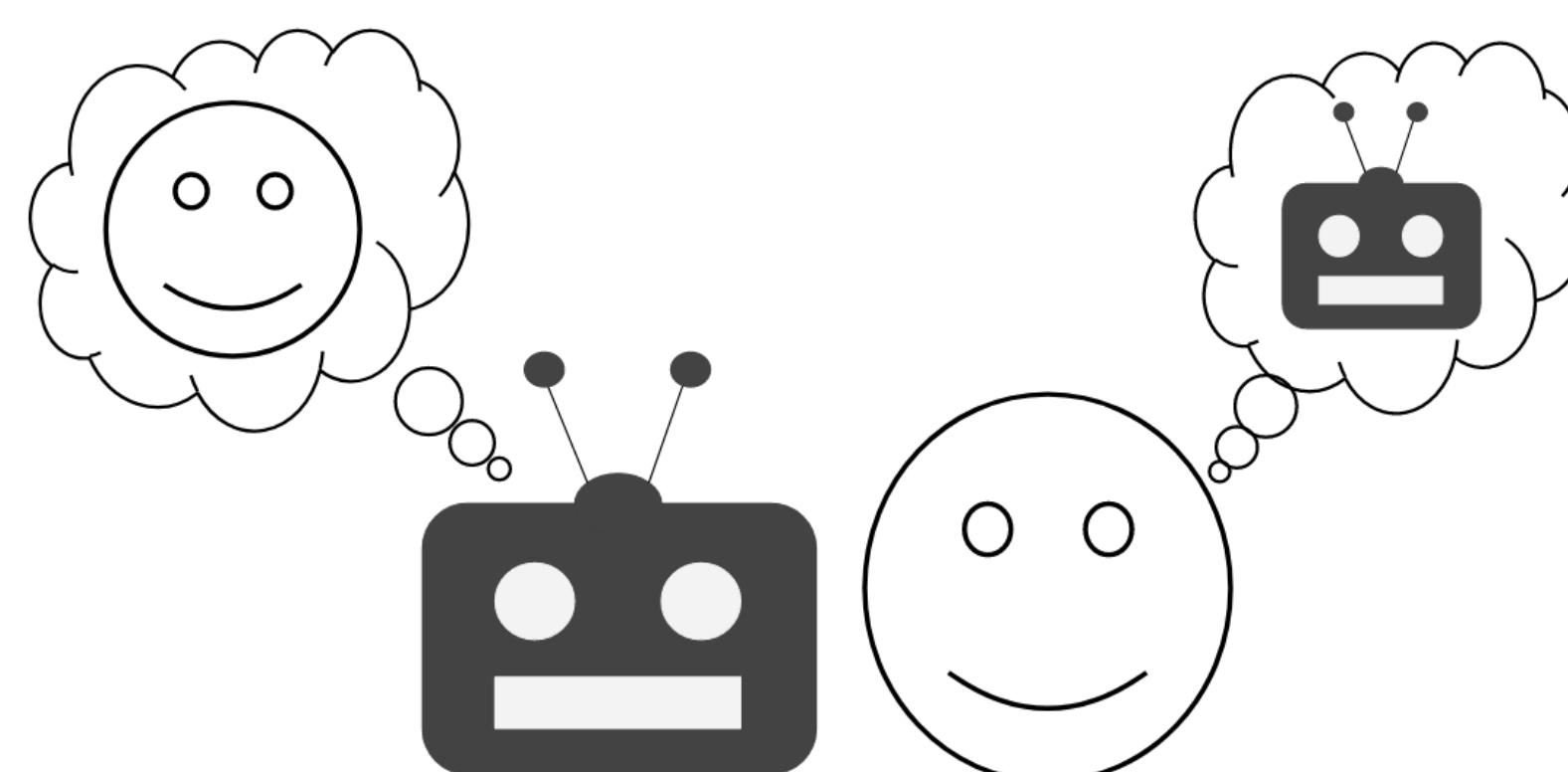**Patient:** I still do everything myself
**Nurse:** Do you mean without any effort?
**Patient:** Yes, without any effort

## Plans

- Collect data (patient-nurse/patient-robot).
- Detect social cues when to deviate from the expected dialogue flow.
- Add additional conversation capabilities to the robot.
- Improve the quality of patient-robot interviews.

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[1]Patient-Nurse interview examples are taken from: *Boumans, R. J. L. Feasibility and effectiveness of social robots in acquiring patient reported outcomes from older adults. Diss. [Sl: sn], 2020.*