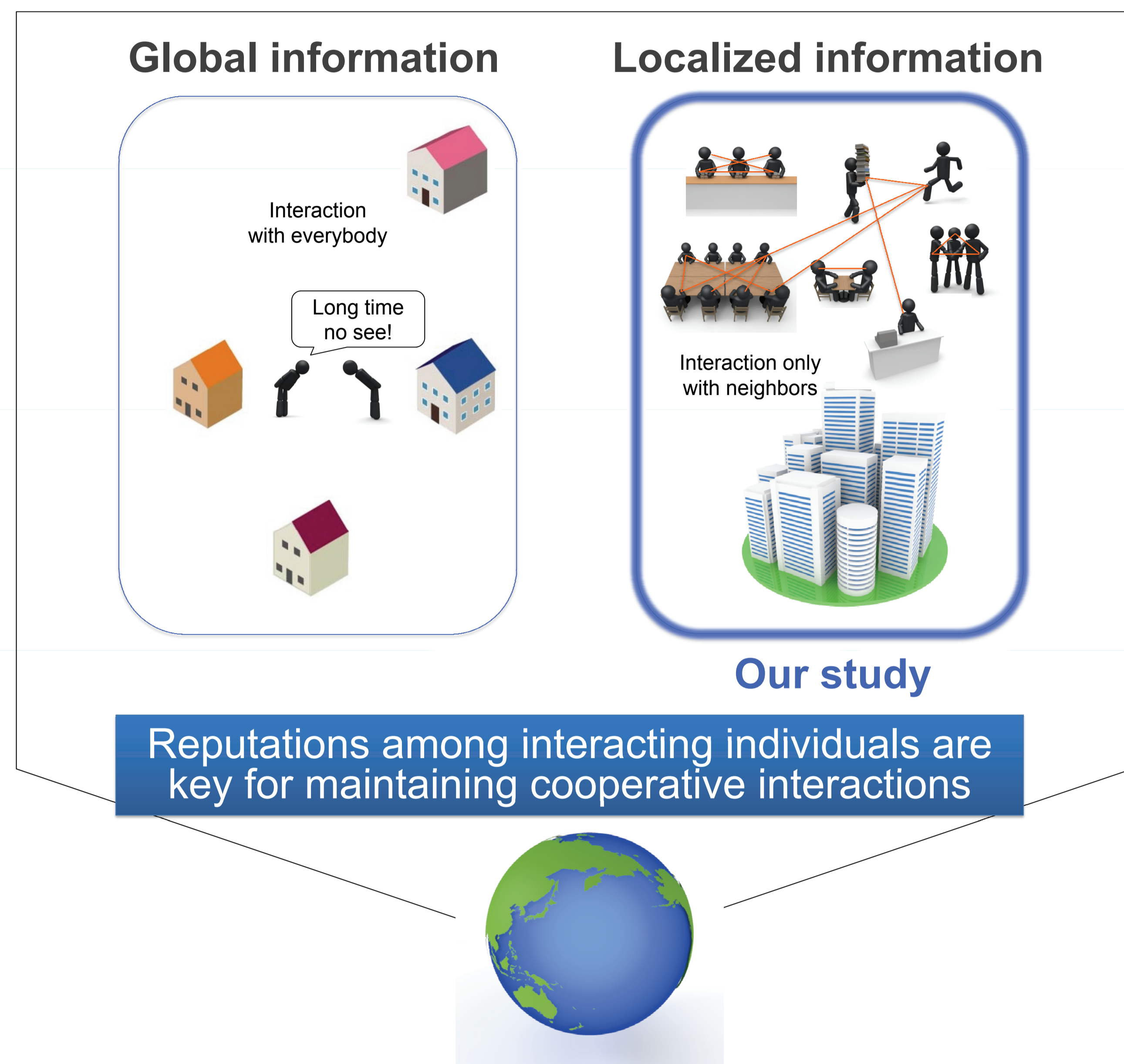


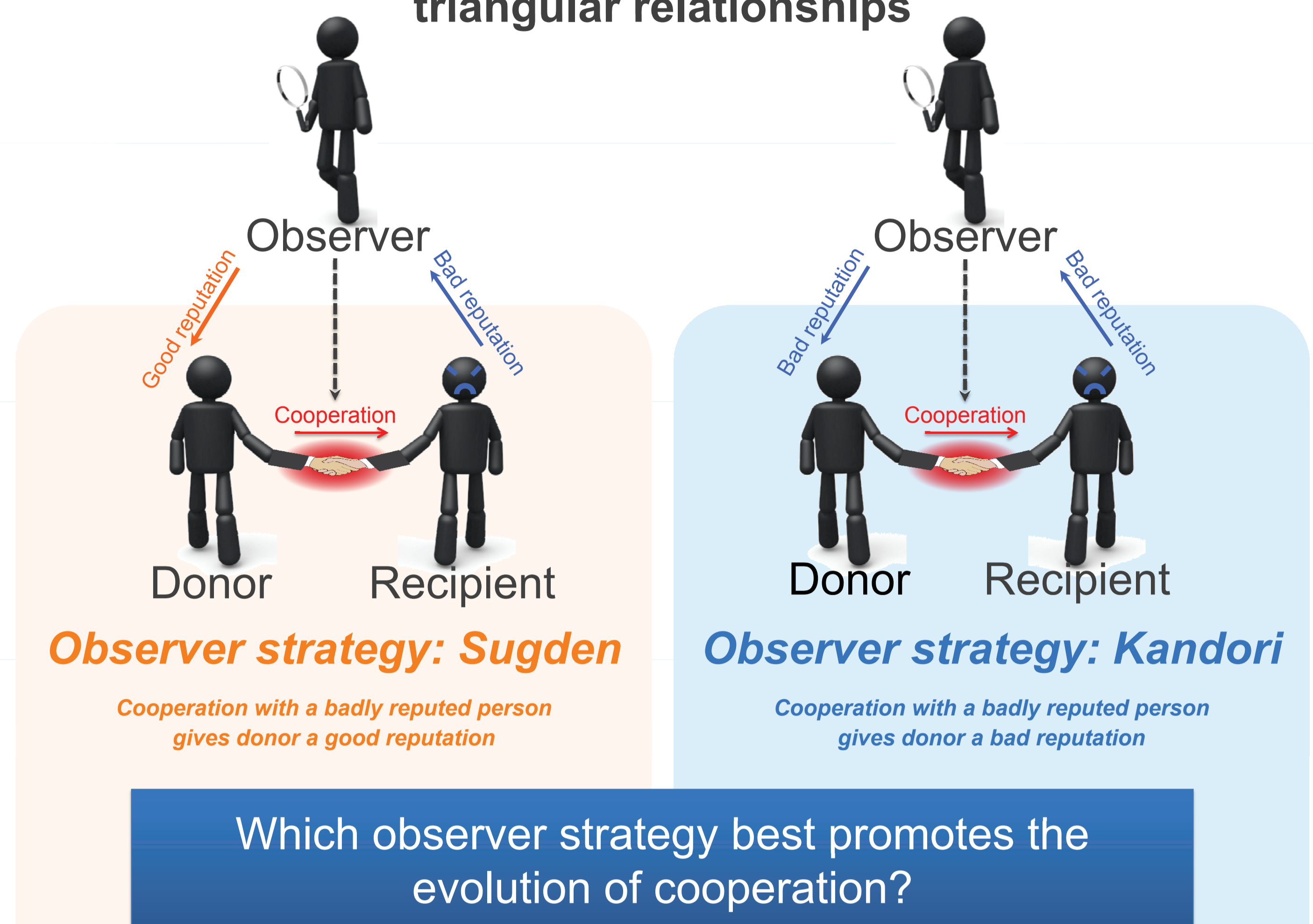
How Localized Information Affects the Evolution of Indirect Reciprocity

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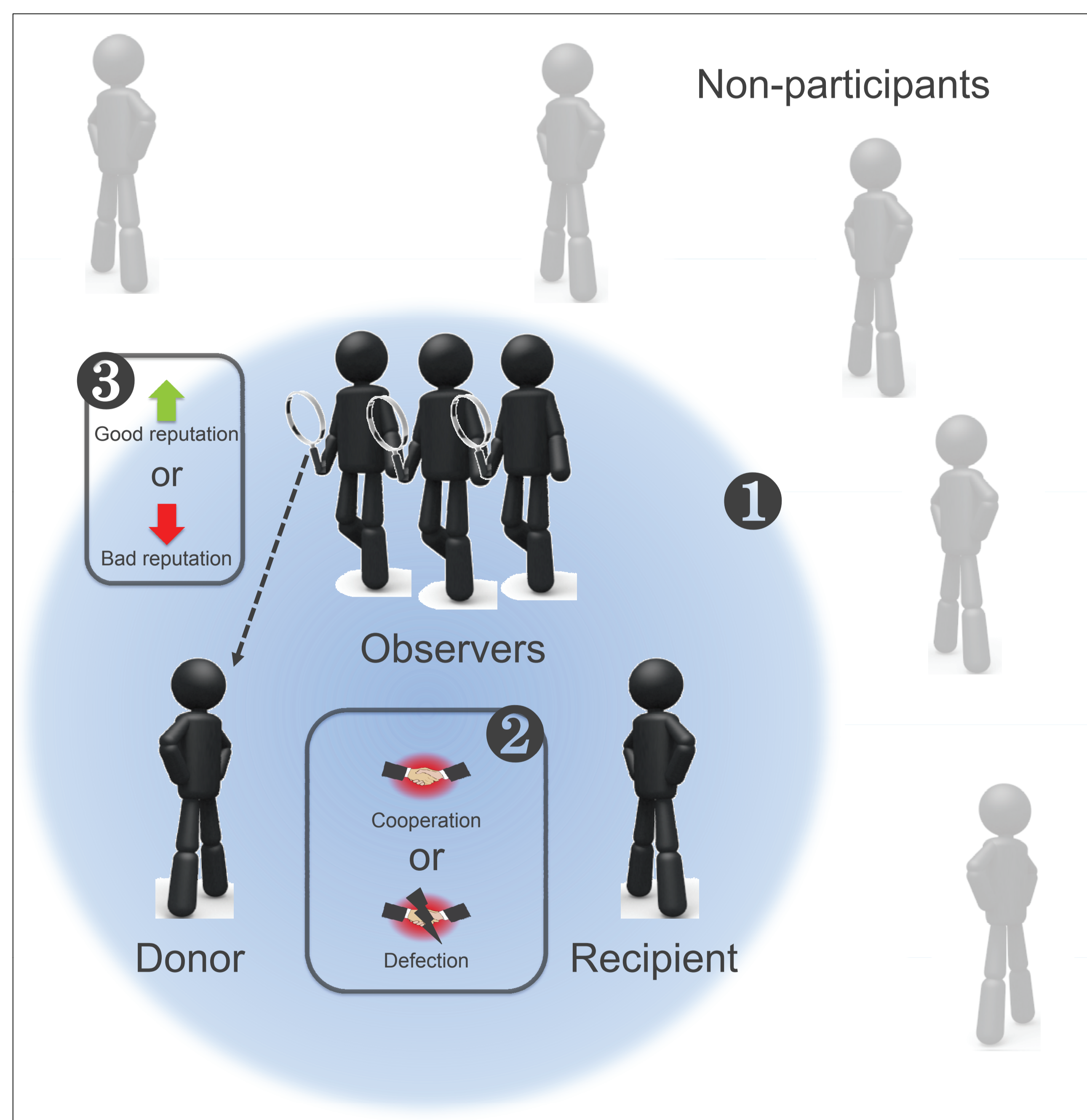
1 Background



Indirect reciprocity is a basic mechanism to sustain cooperation based on reputations in triangular relationships



2 Method



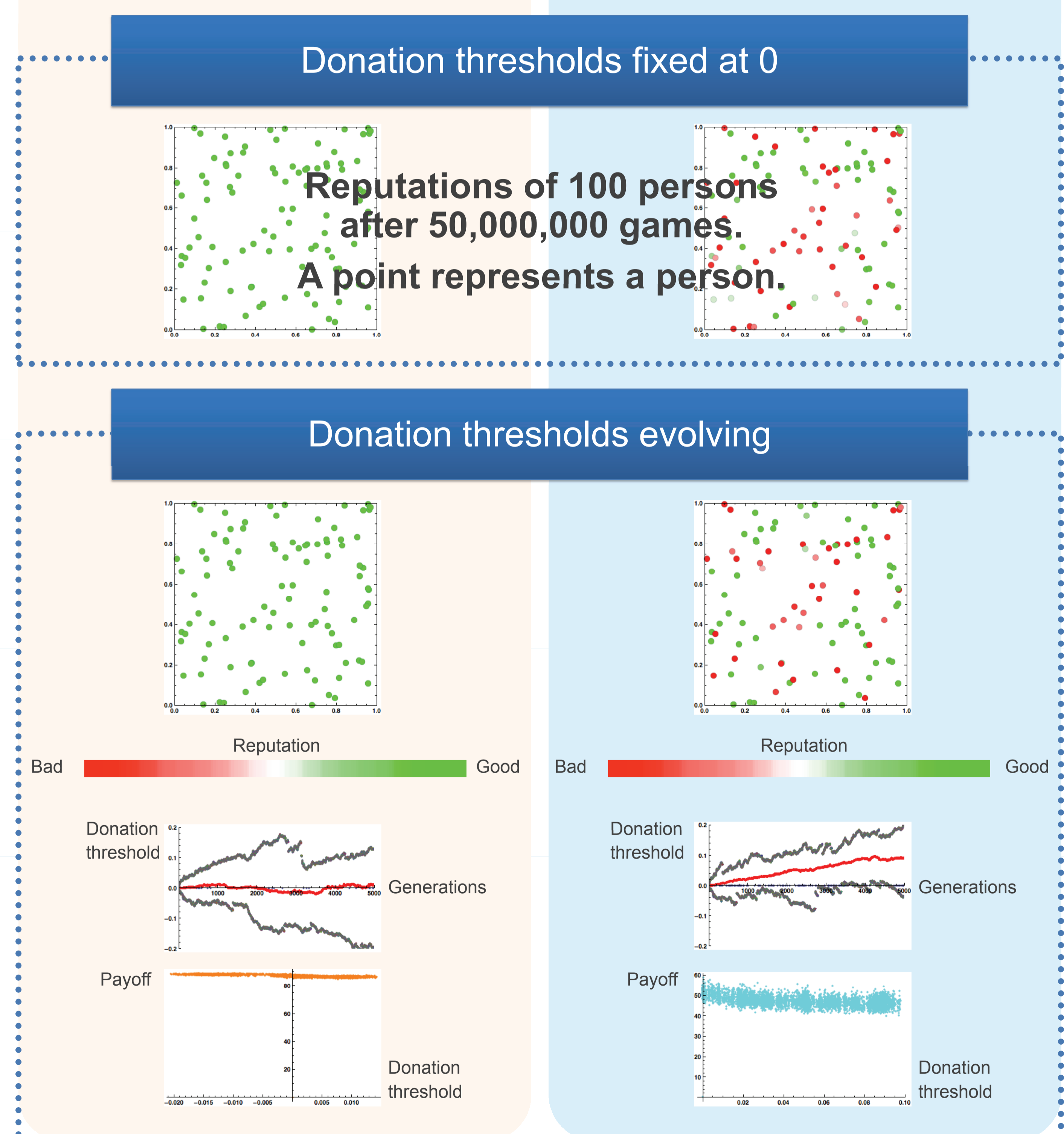
Step 1: Randomly choose a donor, a recipient, and observers within range.

Step 2: Play the game: If the recipient's reputation in the eyes on the donor exceeds the donor's donation threshold, the donor regards the recipient as being good and cooperates.

Step 3: Each observer evaluates the donor's action and updates his/her reputation record accordingly.

Donation thresholds are either fixed at 0 or are allowed to evolve through mutation and selection.

3 Results



4 Summary & Future Work

- The Kandori strategy imposes stricter judgment on the donor and, consequently, gradually increases the donation threshold of individuals, diminishes cooperation, and decreases payoffs.
- The Sugden strategy, by contrast, avoids this problem and promotes the evolution of cooperation.
- We plan to study three extensions: to well-mixed populations, to participants that can make mistakes, and to different rates of memory loss in reputation records.