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*Thinking without chatting: collective decision-making in weaver ants *Oecophylla smaragdina* does not require individual communication or recruitment*

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Weaver ants are unique among ants in forming chains of living workers to bridge gaps in the canopy. Together, they are capable of making collective decisions when faced with a binary choice of gaps, with chains more likely to bridge the gap between a closer than distant, or larger rather than smaller, target. Although the recruitment dynamics looks identical to that of mass recruiting ants when faced with two food choices, the entire process appears to occur in the complete absence of individual communication or recruitment. Rather, the process is driven by the time at which work commences: the probability of chain initiation at the relevant work site. Flow rates in and out of chains are constant and irrespective of the target type and remain constant once work commences: switching targets in the middle of a choice has no effect on chain dynamics. The probability that a chain forms to a particular target appears to be determined by the optical image size of the target to individual ants. Ants are more likely to bridge a gap to larger rather than smaller targets that are at the same distance, and to closer rather than more distant targets of similar size, but they show no preferences when offered a pairwise choice between two targets with the same visual angle but differing in size and distance. Efforts to replicate collective decision-making in other systems may not require the parallel development of communication and recruitment systems.