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The social route to abstraction

Abstraction lies at the heart of human cognition, categorization and semiosis. We are sensitive to regularities even when these concern higher-order complex relations, and readily infer rules from complex sensory stimulus (Gómez, 2002). Most theories of abstraction and complex rule formation - often implicitly - take the individual as a starting point: as individuals successively encounter varied tokens that share relations among their features, they generalize these as belonging to the same type (Medin & Smith, 1984). However, it has also been suggested that abstraction might be related to human-specific modes of social behavior and shared attention (Tomasello, 1999). The combination and integration of perspectives from two or more individuals already in the outset accommodates larger degrees of variability due to individual differences in experience, knowledge and cognitive style (Page, 2008). This is likely to make groups converge on representations that are more abstract (Schwartz, 1995).

In this paper we present two experiments that compare the performance and behavior of individuals and groups in problem solving tasks affording cognitive processes of abstraction. Our results suggest that the probability of reaching more abstract and superior solutions is highest in groups of individuals and evidence is presented that this effect is contingent upon the extent to which groups display aspects of cognitive diversity and complementarity.

References

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