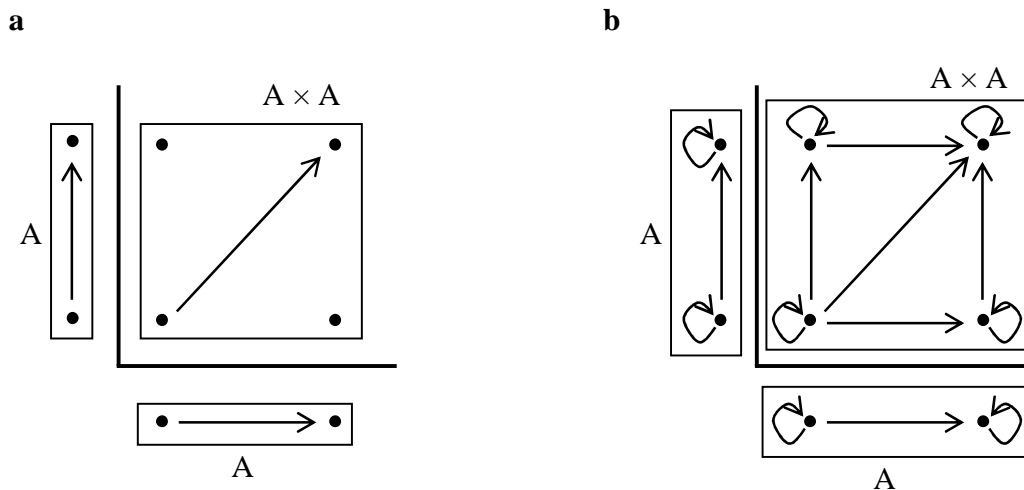


Cohesion of Conceptual Mind



*Figure 6. (a)* In the irreflexive graph model of conceptual mind (Figure 1c), a proposition  $A$  is an arrow along with its source and target dots representing the subject and predicate concepts of the proposition. Since the subject and predicate concepts of a proposition are integral to the proposition, the arrow  $A$  along with its source and target dots constitutes one connected piece. The product  $A \times A$  consists of one arrow along with its source and target dots and, in addition to these two dots integral to the arrow, two more disconnected dots. Thus the product consists of three pieces (one arrow plus two disconnected dots). Hence, the number of pieces of the product is not equal to the product of pieces of the factors ( $3 \neq 1 \times 1$ ; Lawvere & Schanuel, 2009, pp. 260, 372-373), which is a required condition for cohesion. *(b)* In the reflexive graph model of conceptual mind (Figure 1d), for every concept (depicted as a dot), there is an identity proposition (depicted as a loop with a single dot as both source and target dot). Consider a proposition  $A$  (an arrow with loops representing its subject and predicate concepts), which is one piece. The product  $A \times A$  is also one connected piece. Hence, the number of pieces of the

product is equal to the product of pieces of the factors ( $1 = 1 \times 1$ ), thereby satisfying the product condition for cohesion.