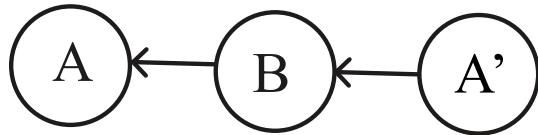
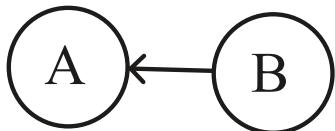


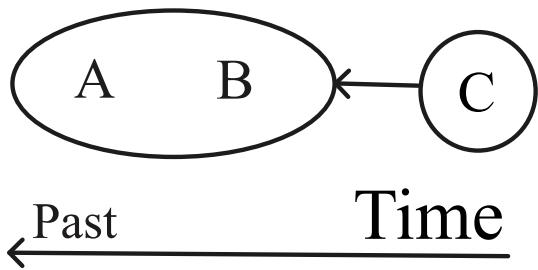
**Figure 1.1.** Two nodes with a temporal inconsistency forming a cycle ( $A \rightarrow B \rightarrow A$ ), violating the DAG acyclic property.



**Figure 1.2.** Resolution via preprint insertion. A new node  $A'$  represents the earlier preprint version, creating the acyclic path  $A' \rightarrow B \rightarrow A$ .



**Figure 1.3.** Resolution via edge removal. The forward-pointing edge is deleted to break the cycle.



**Figure 1.4.** Resolution via node grouping. Nodes  $A$  and  $B$  merge into a single "family" node inheriting all external connections (e.g., from node  $C$ ).