

Graph-Theoretic Property: *atis* **Unilaterally Connected Branching Elements**

(*Graph-theoretic properties* are those properties that are part of the meta-theory and have been abducted from graph theory to be used as a tool to provide solutions concerning the theory. Those solutions may be assigned as values to components or relations of the theory and thereby become part of the theory.)

Unilaterally connected branching elements, $_{ucb}E$, =_{df} Unilaterally connected components such that (x,y) and (x,z) are unilaterally connected, but (y,z) are not unilaterally connected.

$$_{ucb}E, =_{df} \{(x,y) \mid \forall (u,v),(s,t)[(u,v) \in_{pc} E \wedge (s,t) \in_{pc} E \wedge (v,t) \notin_{pc} E]\}$$

Unilaterally connected branching elements are defined as a set of ordered pairs such that for any two pairs, each is connected to its receiving element, but the receiving elements of each pair are not path-connected.