

**unchanged-for**<sup>11,40</sup>

$$\begin{aligned} & (x \text{ unchanged-for } t @ e) \\ \equiv_{\text{def}} & (\uparrow x \text{ changed before } e) \\ \Rightarrow & \text{qle}((\text{es-time}(es; (\text{last change to } x \text{ before } e)) + t); \text{es-time}(es; e)) \end{aligned}$$

*clarification:*

$$\begin{aligned} & \text{unchanged-for}\{\text{i:l}\} \\ & \quad (T; eq; es; x; t; e) \\ \equiv_{\text{def}} & (\uparrow \text{changed}\{\text{i:l}\} \\ & \quad (T; eq; es; x; e)) \\ \Rightarrow & \text{qle}((\text{es-time}(es; \text{last-change}\{\text{i:l}\}(T; eq; es; x; e)) + t); \text{es-time}(es; e)) \end{aligned}$$