

5)

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(i)  $(s, \#w) \vdash \dots^*_M (h, \#w^R)$ ,  $x \notin \Sigma_0$ ,  $w \in \Sigma_0^*$ 

TM	Condition	Next TM
$> R_{\#} \cdot L$	$\sigma \neq \#$	$x \cdot R_{\#} R_{\#} \sigma \cdot A$
	$\sigma = \#$	$h$
$A = L_{\#} L_{\#} R_x L$	$\sigma = \#$	$B$
	$\sigma \neq \#$	$x \cdot R_{\#} R_{\#} \sigma \cdot A$
$B = R$	$\sigma \neq \#$	$\# \cdot C$
	$\sigma = \#$	$h$

(ii)  $(s, \#w) \vdash \dots^*_M (h, \#ww)$ ,  $x \notin \Sigma_0$ ,  $w \in \Sigma_0^*$ 

TM	Condition	Next TM
$> A = R$	$\sigma \neq \#$	$x \cdot R_{\#} \sigma \cdot L_x \sigma \cdot A$
	$\sigma = \#$	$L_{\#} \cdot h$