connex_iff_trichot[12,41]

$\forall T$:Type, R:($T \to T \to \mathbb{P}$).
($\forall a$, b:T. Dec($R(a,b)$))
$\Rightarrow$ (Connex(T;x,y.$R(x,y)$)
$\quad\iff$ {$\forall a$, b:T.
strict_part(x,y.$R(x,y)$;a;b)
$\vee$ Symmetrize(x,y.$R(x,y)$;a;b)
$\vee$ strict_part(x,y.$R(x,y)$;b;a)})

ProofTree

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http://www.nuprl.org/FDLcontent/p0_942988_/p15_4449_{connex_iff_trichot}.html