Type isomorphism

Proposition

If types $A \cong B$, *and* $t : \mathit{Type} \vdash M : \mathit{Type}$, *then* $[A/t]M \cong [B/t]M$.

Proof.

Suppose we have $p : [A/t]M$ and want $q : [B/t]M$. Intuitively, when we need to produce a B in q, we use code from p to make an A and then map it to B. When we must use a B in a, we map it to A and then use code from p to use that value. □