Lemma. Let $f : \mathbf{P} \times \mathbf{Q} \to \mathbf{Q}$ be Scott continuous. For each $x \in \mathbf{P}$, define $f_x : y \mapsto f(x, y)$.

Then $f^\dagger : x \mapsto \mathrm{lfp}(f_x)$ is Scott continuous.