T and $f : \mathcal{S}_n(T) \to k$

iteration of pigeonhole principle

S and $f : \mathcal{S}_n(S) \to k$ stable

yield

S and $f_{\lim} : \mathcal{S}_{n-1}(T) \to k$

application of MTT^{n-1}

S' homogeneous for f