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SUCCESSIVE TOPOLOGIZATIONS AND REGULARIZATIONS

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L. Foged proved that a weakly regular topology on a countable set is regular. In terms of convergence theory, this means that the topological reflection $T\xi$ of a regular pretopology ξ on a countable set is regular. It is proved that this still holds if ξ is a regular σ -compact pretopology. On the other hand, it is proved that for each finite n there is a (regular) pretopology ρ (on a set of cardinality continuum) such that $(RT)^k\rho > (RT)^n\rho$ for each $k < n$ and $(RT)^n\rho$ is a Hausdorff compact topology, where R is the reflector to regular pretopologies. The proof is based on a concatenation of modules constructed with the aid of a MAD family of Ptr Simon. It is also shown that there exists a regular pretopology of Hausdorff RT -order greater than the first countable ordinal. Moreover, all these pretopologies have the property that all the points except one are topological and regular.

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