Clones near the top of the clone lattice

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Let A be a finite set with at least three elements, and let $\mathcal{Q}$ and $\mathcal{S}$ be clones on A such that $\mathcal{Q} \subseteq \mathcal{S}$. The subclones $\mathcal{C}$ of $\mathcal{S}$ not containing $\mathcal{Q}$ can be best classified by finding a manageable set R of relations on A such that every subclone of $\mathcal{S}$ not containing $\mathcal{Q}$ is contained in $\mathcal{S} \cap \operatorname{Pol} \rho \ (\neq \mathcal{S})$ for some $\rho \in R$. For example, if $\mathcal{S} = \mathcal{Q}$ is the clone of all operations on A, then Rosenberg's description of the maximal clones provides such a set R of relations. The aim of this talk is to discuss analogous results for the cases when $\mathcal{S}$ is Słupecki's clone or some of the other maximal clones.