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A general Kurosh-Amitsur radical theory

In this talk I will give an outline of a long paper which appeared back in 1988. The theory to be presented is the most general version of Kurosh–Amitsur radical theory: it is a common generalization of the classical radical theory of associative rings, torsion theories of modules, the greatest semilattice decomposition of semigroups, and the theory of connectednesses of topological spaces, among others. The theory is formulated in a categorical language, and is fairly complicated. This concerns already the axioms postulated on the category, but even more the definition of radical. No simplification of this theory could be achieved in this generality so far.

Recently, Zurab Janelidze came to the idea of developing the theory in a more accessible way by using his theory of forms. The present talk is intended to provide a background to Zurab’s subsequent talk.

This is joint work with R. Mlitz and R. Wiegandt