Francesco Fumagalli (fumagalli@math.unifi.it), Firenze, Italy, and John Shareshian* (shareshi@math.wustl.edu), St. Louis, MO. Truncated Quillen complexes of $p$-groups.

Let $G$ be a group and let $p$ be a prime. Starting with the seminal papers of K. S. Brown and D. Quillen, relations between the algebraic structure of $G$ and the topological structure of the order complex of the poset of its nontrivial elementary abelian $p$-subgroups have been studied. Say $G$ is a finite $p$-group. Then this order complex is contractible and thus provides little information. However, S. Bouc and J. Thévenaz showed that if one removes from the poset all subgroups of order $p$, the complex becomes more interesting. Here we show show that determining the topology of this truncated complex is equivalent to counting certain extraspecial subgroups of $G$. This allows us to give a negative answer to a question raised by Bouc and Thévenaz. (Received January 28, 2014)