962-55-1026   **Wojciech Chacholski*** (`chachols@math.yale.edu`), Math Dept, Yale University, 10 Hillhouse Ave, P.O. Box 208283, New Haven, CT 06520, **Paul-Eugene Parent** (`parent@agel.ucl.ac.be`), Universite catholique de Louvain, Departement de mathmeatiques, 2 Chemin du Cyclotron, B-1348 Louvain-la-Neuve, Belgium, and **Don Stanley** (`stanley@math.ualberta.ca`), University of Alberta, Department of Mathematical Sciences, 632 Central Academic Building, Edmonton, Alberta T6G 2A4, Canada. *Celluar vs Acyclic.*

A space is called A-cellular if it can be constructed out of A using push-outs, wedges, and telescopes. A space is called A-acyclic if it can be constructed out of A using, in addition to the previous operations, extensions by fibrations (twisted products). The main question of our project is: to what extentan A-acyclic space is A-cellular. A related question is: under what conditions on A can we find a finite space B for which B-cellular spaces coincide with A-acyclic (we look for a finite cellular generator). For example the nilpotance theorem of Devinatz-Hopkins-Smith is equivalent to the existence of such a B for any finite rationally non-trivial complex A. The objective is to construct obstruction groups that detect the difference between being acyclic and cellular. In the talk we will present applications of these obstructions and show that the Dror-Farjoun lattice is more complicated than it has been thought previously. (Received October 01, 2000)