

In this thesis we familiarize the reader with the fundamental notions of tilting theory. Building on those, we formulate and prove two major results of classical tilting theory, Brenner–Butler theorem and Bongartz lemma. We base our exposition heavily on the classical textbook of Assem, Simson and Skowronski. A reader unsure of their proficiency in homological algebra may appreciate our efforts to wholly uncover the homological results which come to play in the proofs.

In the second part of the thesis we investigate a particular case of acyclic quivers. It turns out there is a delightful instance of Brenner-Butler correspondence in connection with reflection functors. We introduce the fundamental notions and basic facts on representations of quivers. Next we prove how the correspondence looks like.