

# Around Quillen's Theorem B

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For a functor  $F : D \rightarrow C$  between small categories, Quillen's Theorem B provides a tool for identifying the homotopy fibre of the induced map  $BD \rightarrow BC$  between classifying spaces. I will state an extension of this theorem to simplicial categories, and show how this extension can be applied to obtain many classical results (e.g. about the classifying space of the monoid of self-equivalences of a space, or complex Bott periodicity) as well as new results (such as a version of the univalence theorem for universal fibrations).

### REFERENCES

- [1] D. Quillen, *Higher K-Theory I*, 1974.
- [2] B. Harris, *Bott periodicity via simplicial spaces*, 1980.
- [3] I. Moerdijk, *Bisimplicial sets and the group-completion theorem*, 1989.