

On rooted planar maps and Dyck paths

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In one of his seminal papers from the early 60's, W. T. Tutte established a link between the enumeration of rooted planar maps and the enumeration of their nonseparable elements. Motivated by Tutte's result, in this talk we give a bijection between the set of rooted planar maps with n edges and the set of Dyck paths of semilength $2n$ having ascents of even length and such that each $2j$ -ascent may be labeled with a rooted nonseparable map with j edges. Our bijection relies on the representation of rooted planar maps as shuffles of Dyck words. This is joint work with Daniel Birmajer and Michael Weiner.

Keywords: rooted planar maps, colored Dyck paths, noncrossing partition transform.