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Quotient-closed subcategories of the representations of a quiver

Let Q be a quiver without oriented cycles. We show that the quotient-closed full subcategories of rep Q which are cofinite (i.e. contain all but finitely many indecomposable representations of Q) are naturally in bijection with the elements of the Weyl group W associated to Q, and that the inclusion order on the subcategories corresponds to the "sorting order" on W introduced by Armstrong. In the Dynkin case, cofiniteness is trivially satisfied, and we obtain a bijection between the quotient-closed subcategories and the elements of W. Even the fact that these sets have the same cardinality seems to be new. The representation theory of preprojective algebras plays an important role in our analysis. This is joint work with Steffen Oppermann and Idun Reiten.