

Extending Hall's theorem into list colorings: a partial history

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In 1988 A.J.W. Hilton and P.D. Johnson Jr. noticed a natural generalization of the condition in Philip Hall's celebrated theorem on systems of distinct representatives. This generalization was formed in the relatively new theory of list colorings of graphs. This talk will be an account of a strand of development arising from this generalization, concentrating on extensions of Hall's theorem, leading to problems today on list colorings of independence systems (aka hereditary systems) and on colorings of graphs with non-negative measurable functions on positive measure spaces.

The abstract is a tiny bit repellent – well, more than a tiny bit. But bear with me – I think the talk will be interesting to both the initiated and the uninitiated, for different reasons. And that “history” in the title will attract more than the abstract will repel, I hope.