



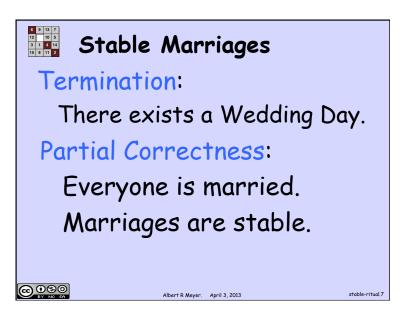
Mating Ritual

Stop when no girl rejects. Each girl marries her favorite suitor (if any).



Albert R Mever. April 3, 2013

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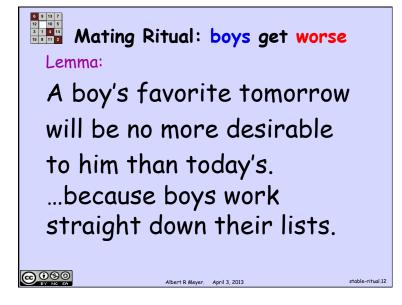
A girl's favorite tomorrow will be at least as desirable to her as today's.

...because today's favorite will stay until she rejects him for someone better.



Albert R Mever. April 3, 2013









Mating Ritual: invariant

If G is not on B's list, then she has a better current favorite.

Proof: When G rejected B she had a better suitor (her favorite that day), and her favorites never get worse.





On Wedding Day

Each girl has ≤ 1 suitor. (by def of wedding day) Each boy is married, or has no girls on his list.





Mating Ritual: No bigamy

No husband sharing ... because boys serenade one girl at a time.





Mating Ritual: Everyone marries

Everyone is married on wedding day

Proof: By contradiction.

If B is not married, his list is empty. By invariant, all girls have favorites better than B —so they do have a favorite: all girls are married. Since no bigamy, all boys are married.





Mating Ritual: Stable marriages

Marriages are Stable:

Bob won't be in rogue couple with case 1: a girl G on his final list, since he's already married to the best of them.





Mating Ritual: Stable marriages

Marriages are Stable:

Bob won't be in rogue couple with case 2: a girl G not on his list, since by invariant, G likes her spouse better than Bob.





Mating Ritual: Stable marriages

Marriages are Stable:

Bob is not in a roque couple There are no rogue couples

