



# Sequence Encoding

## Multi-Head Attention

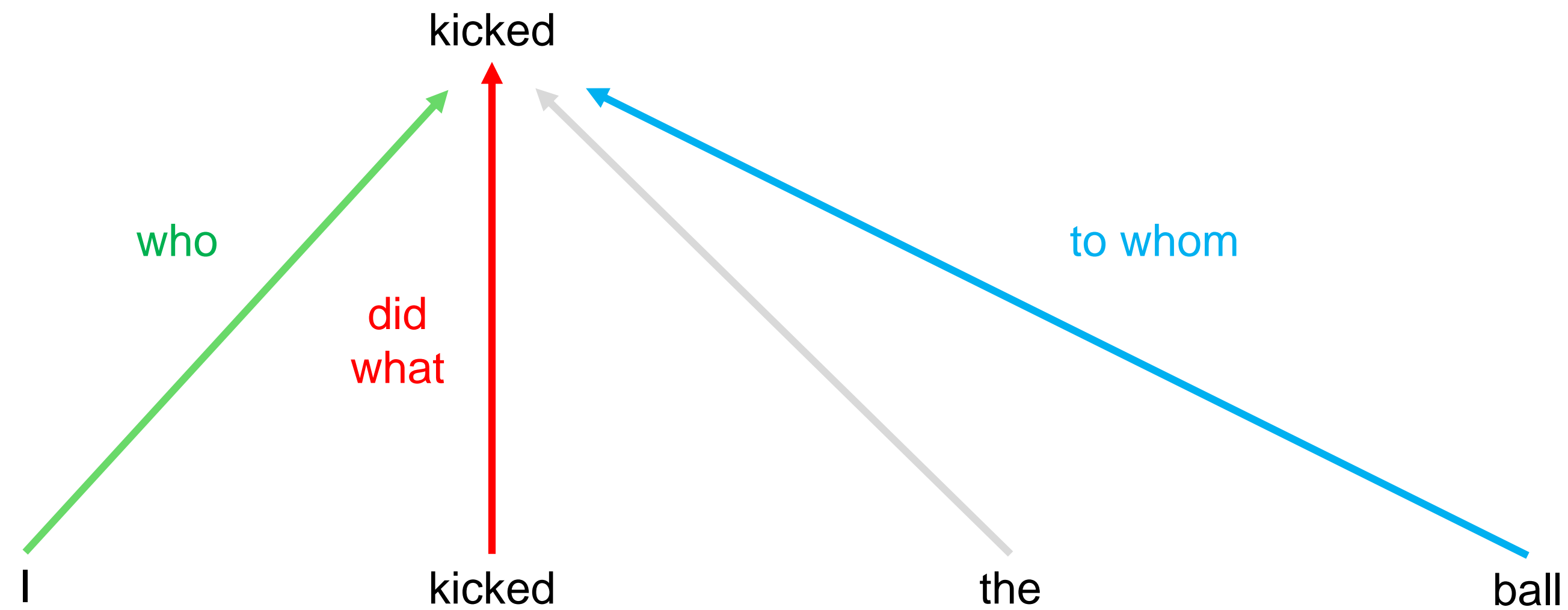


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<http://vivianchen.idv.tw>

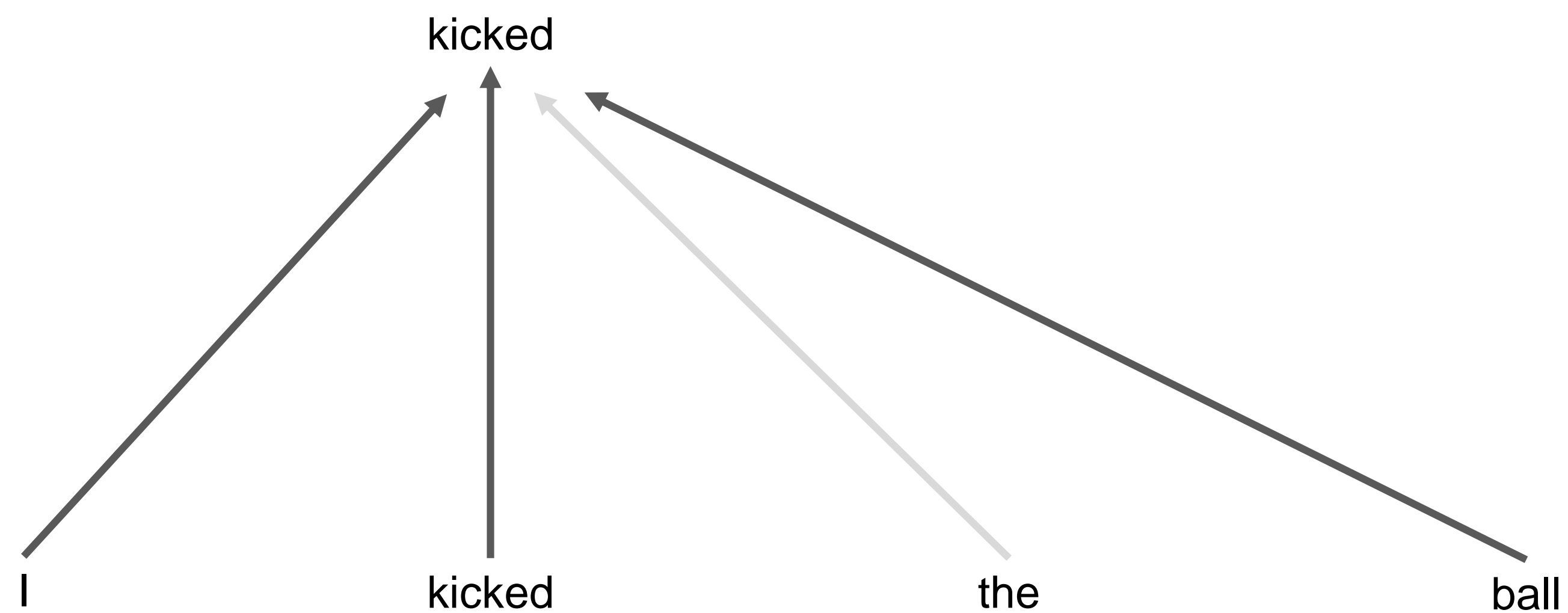
# Convolutions

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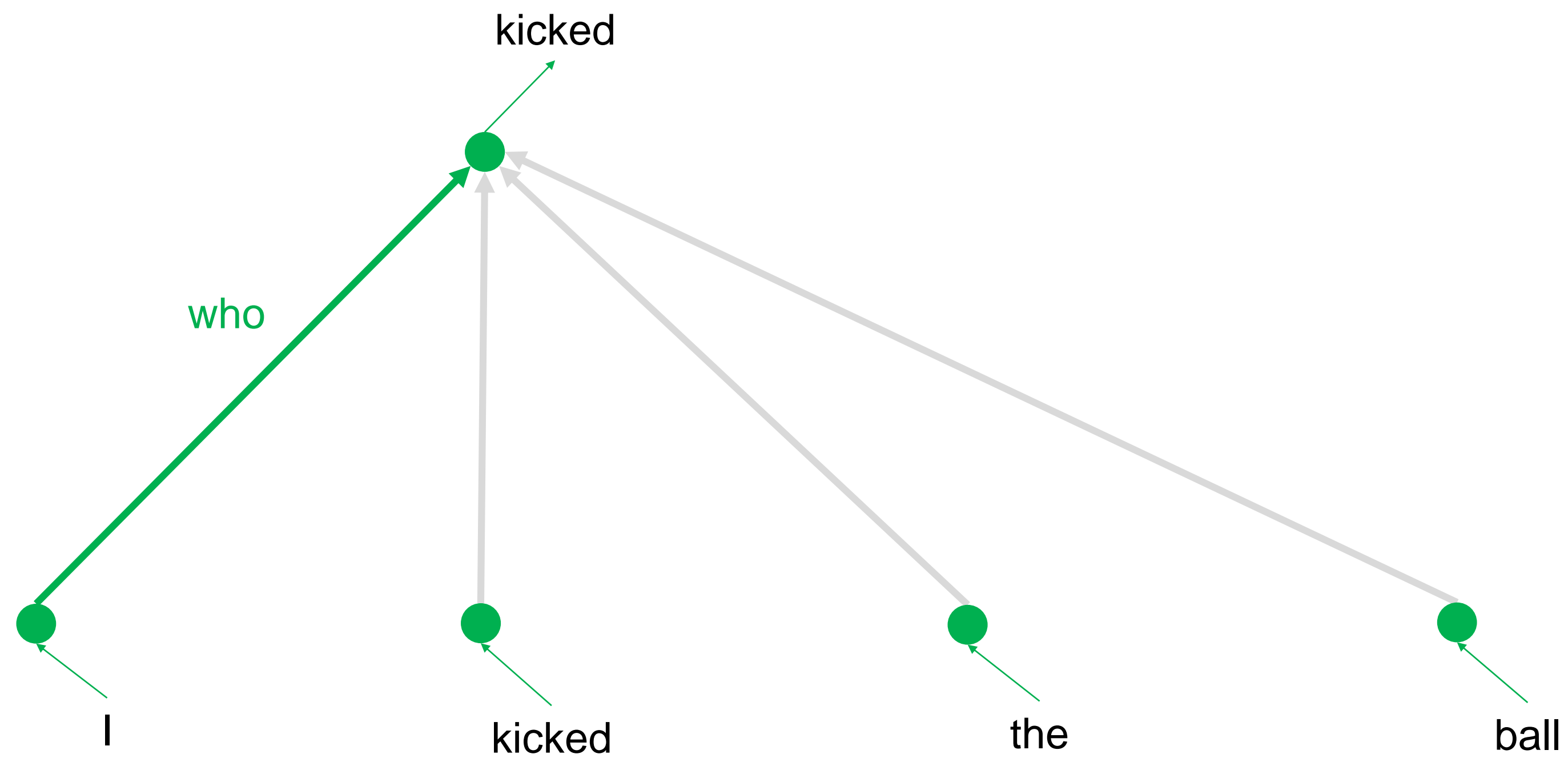
# Self-Attention

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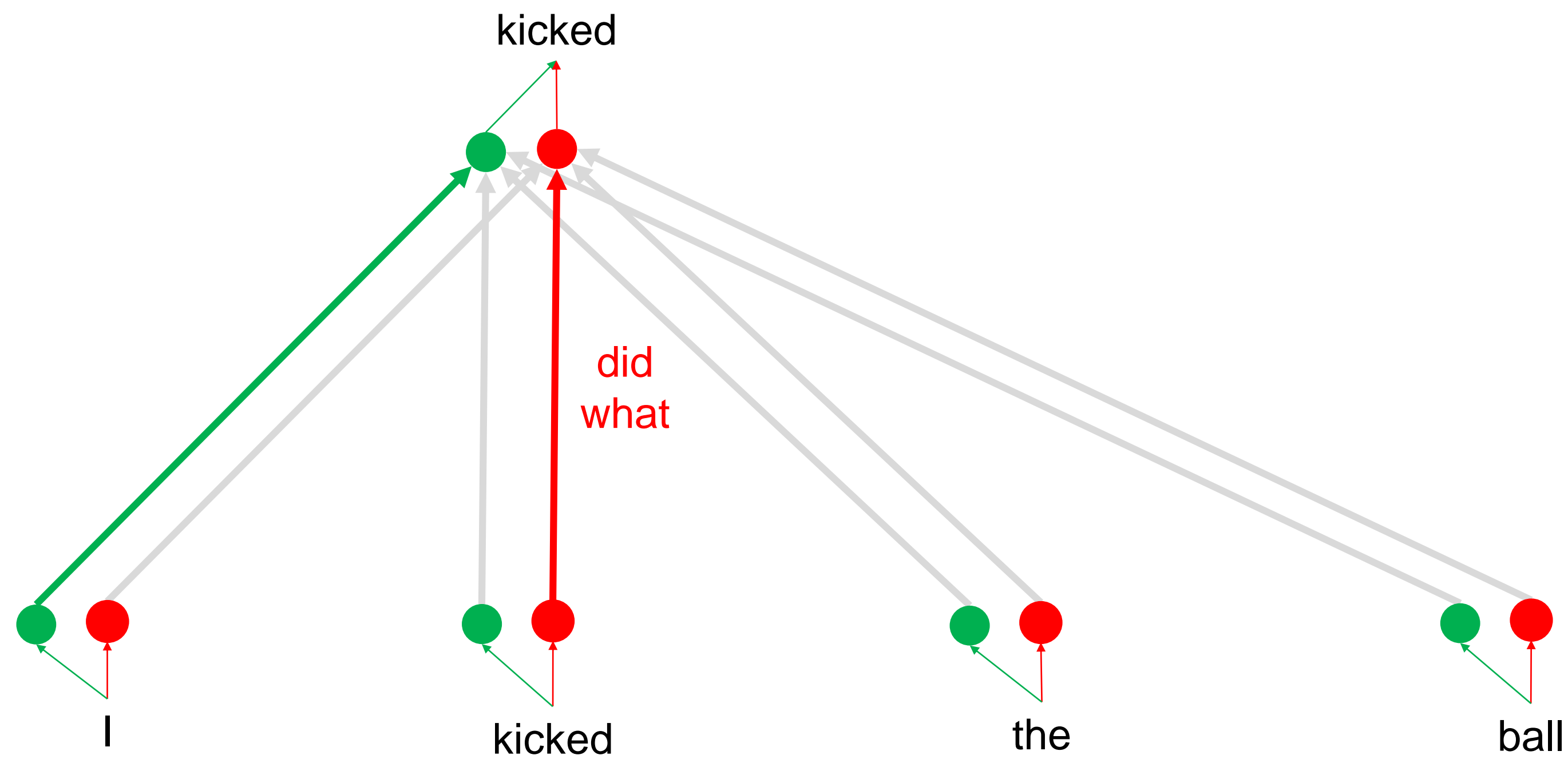
# Attention Head: who

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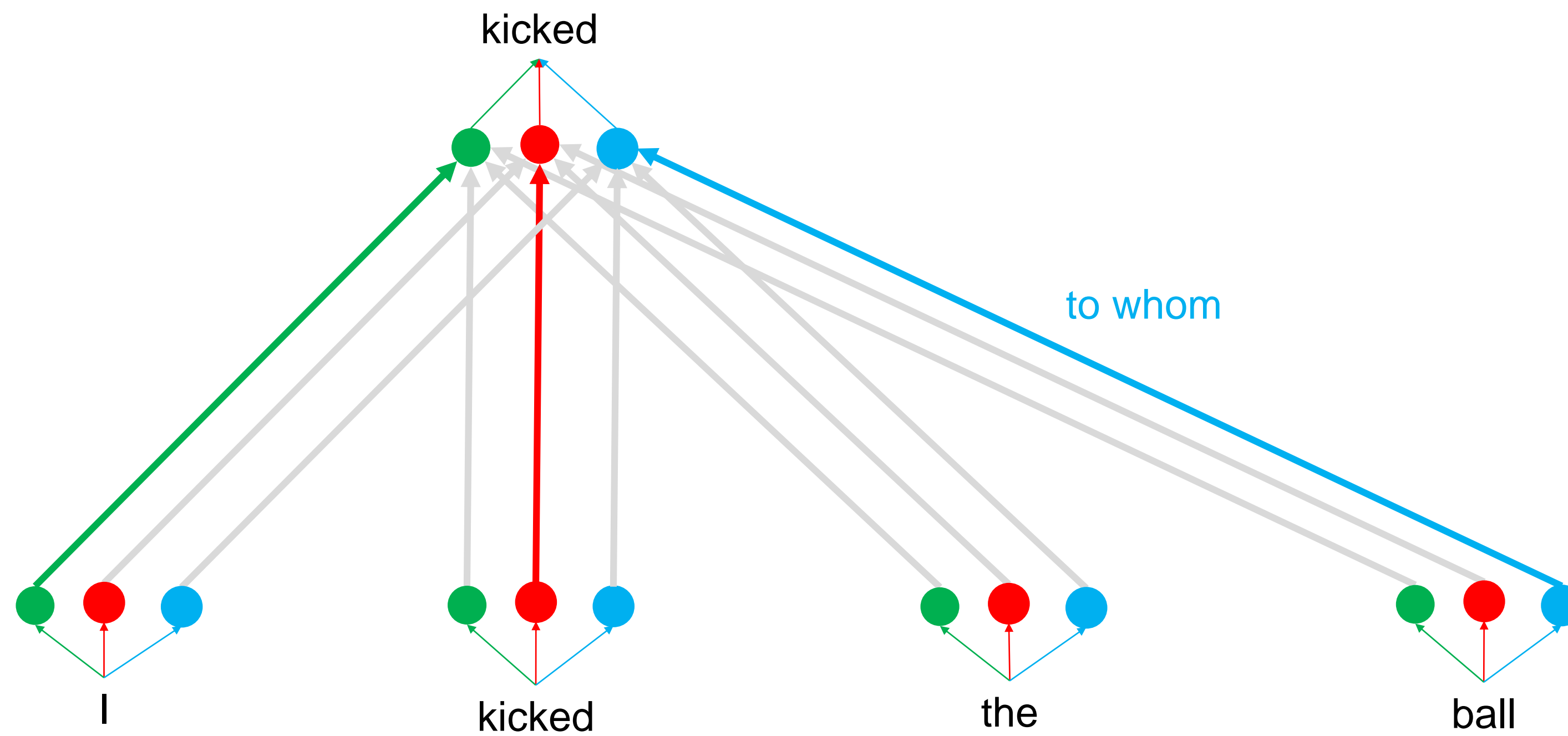


# Attention Head: did what

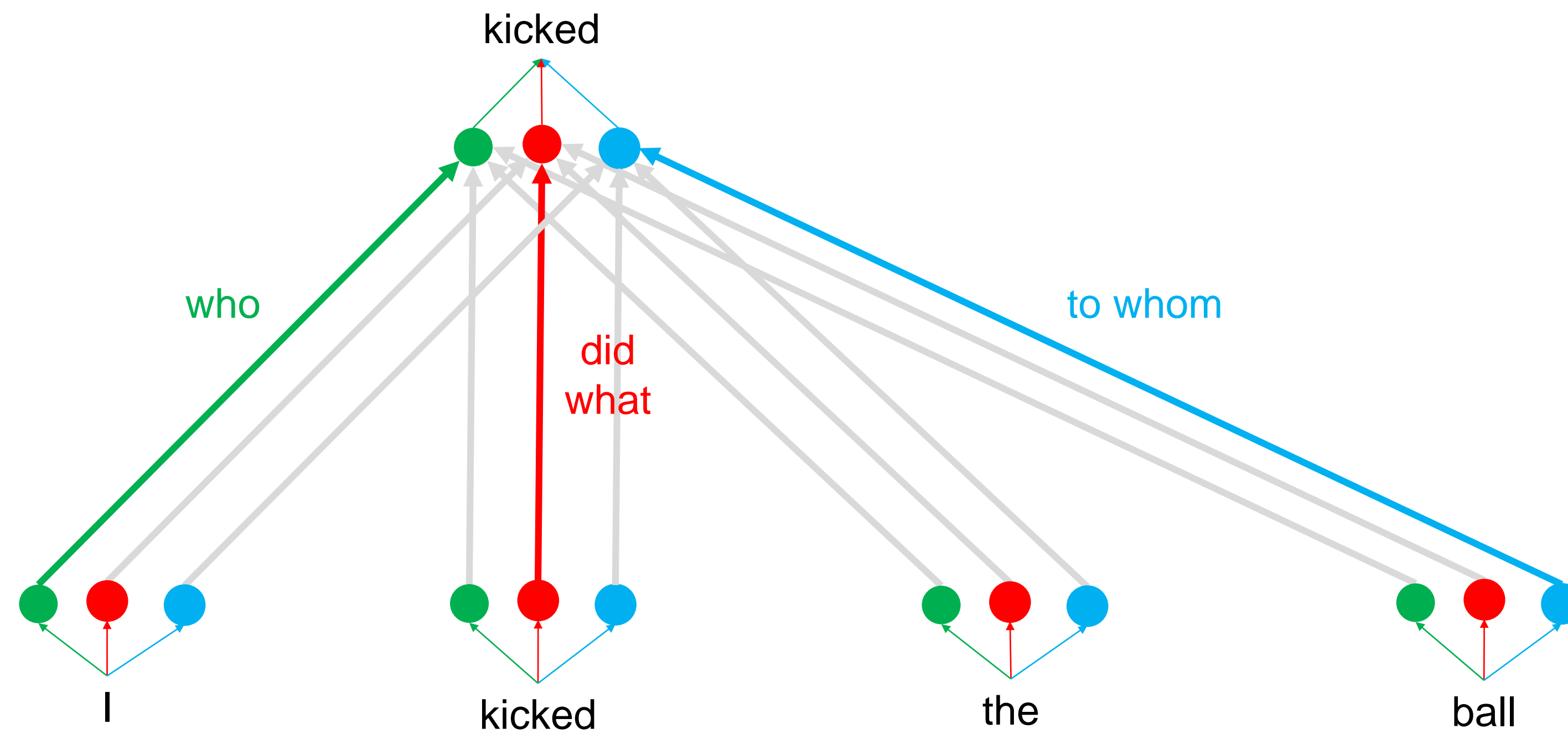
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# Attention Head: to whom

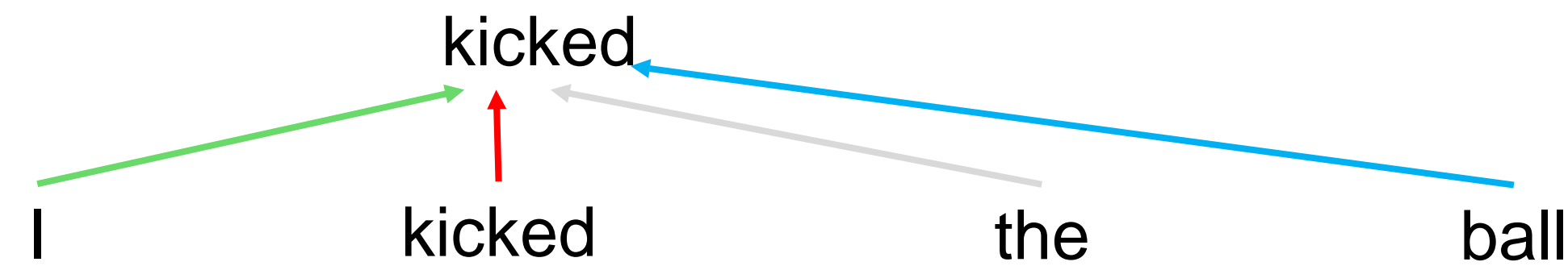


# Multi-Head Attention



# Comparison

- Convolution: different linear transformations by relative positions



- Attention: a weighted average



- Multi-Head Attention: parallel attention layers with different linear transformations on input/output

