

Feature Grammar Practice Solution

Feature Grammar Practice

- **Initial Grammar:**

S → NP VP

VP[subcat=ditrans] → V NP NP

NP → NNP

NP → Det N

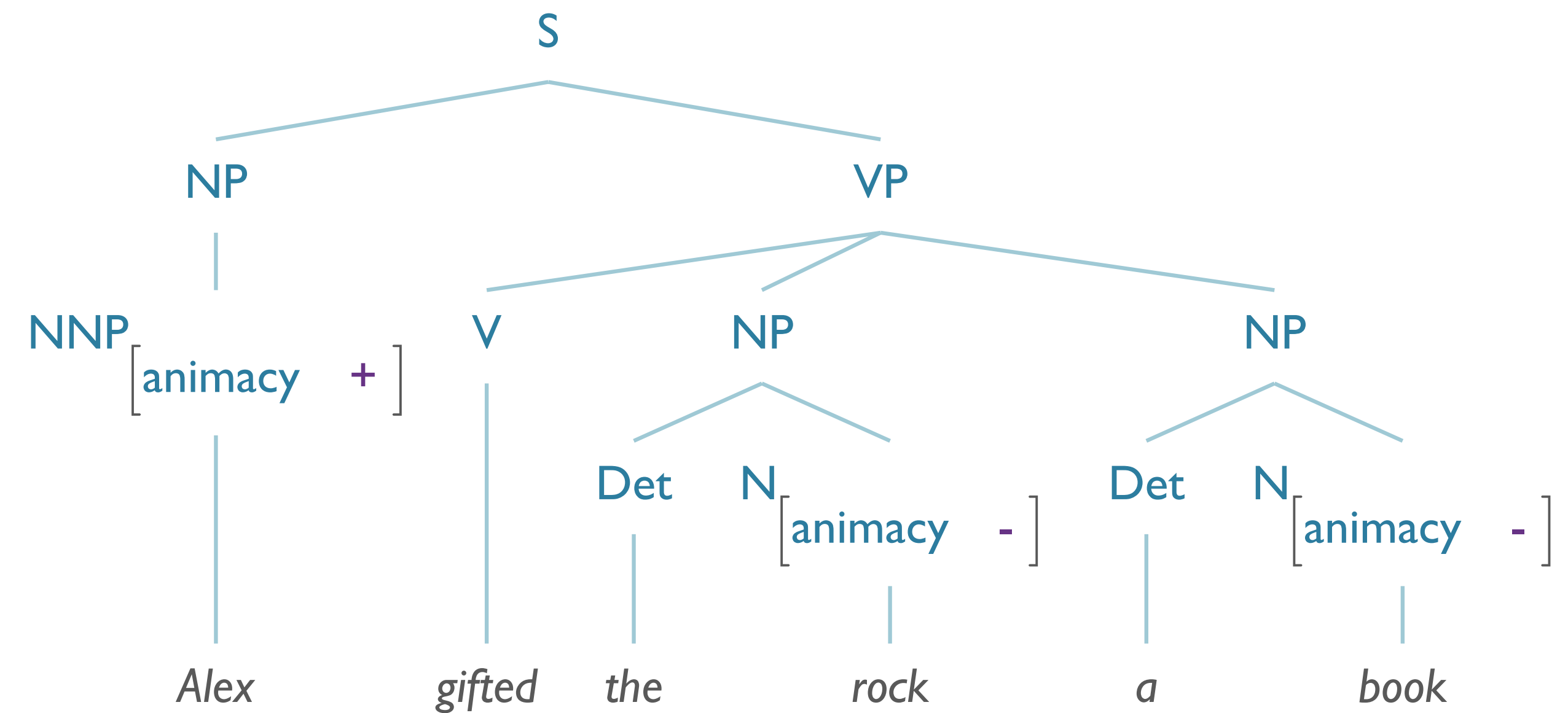
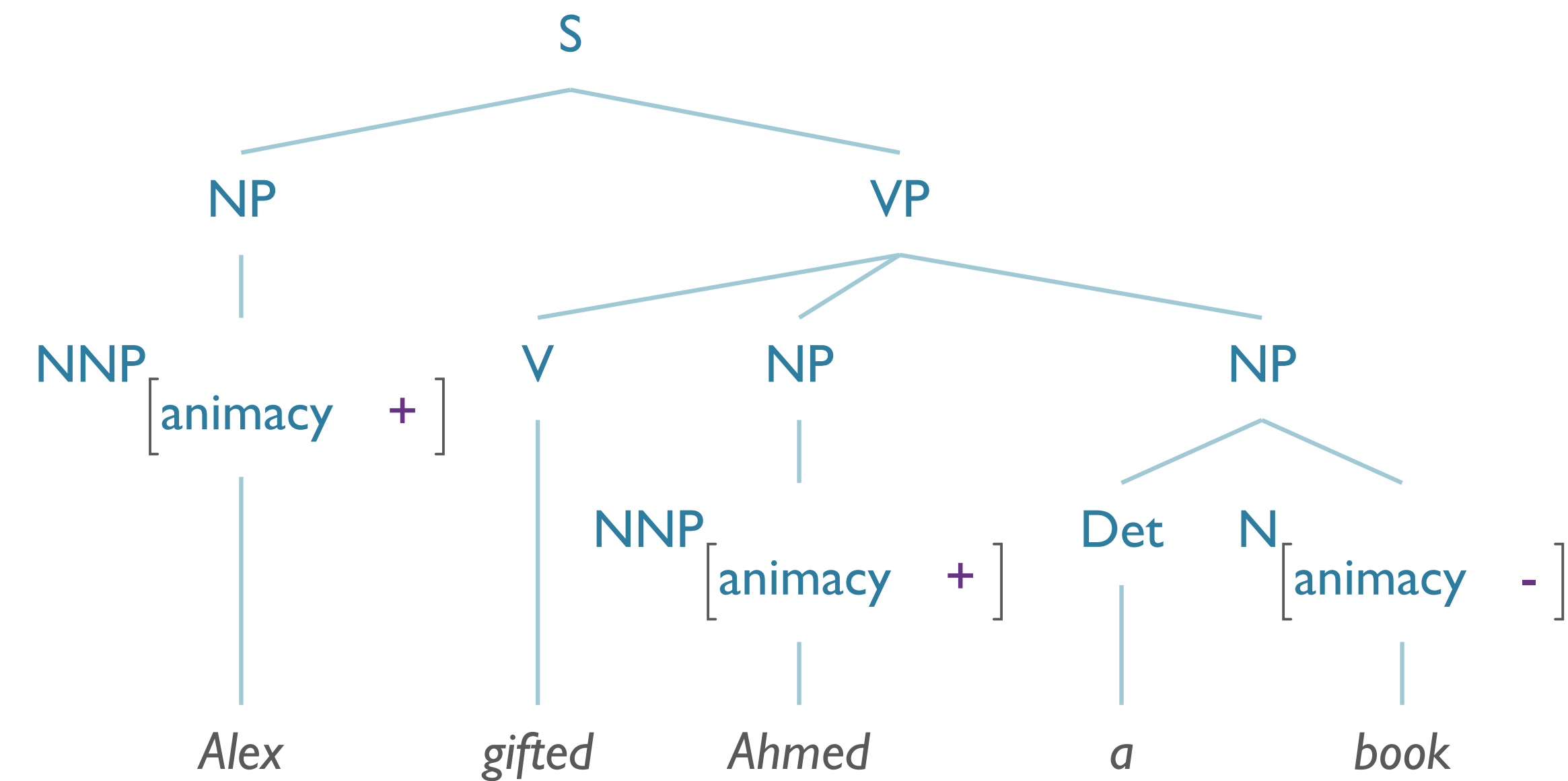
NNP[animacy=True] → 'Alex' | 'Ahmed'

V → 'gifted'

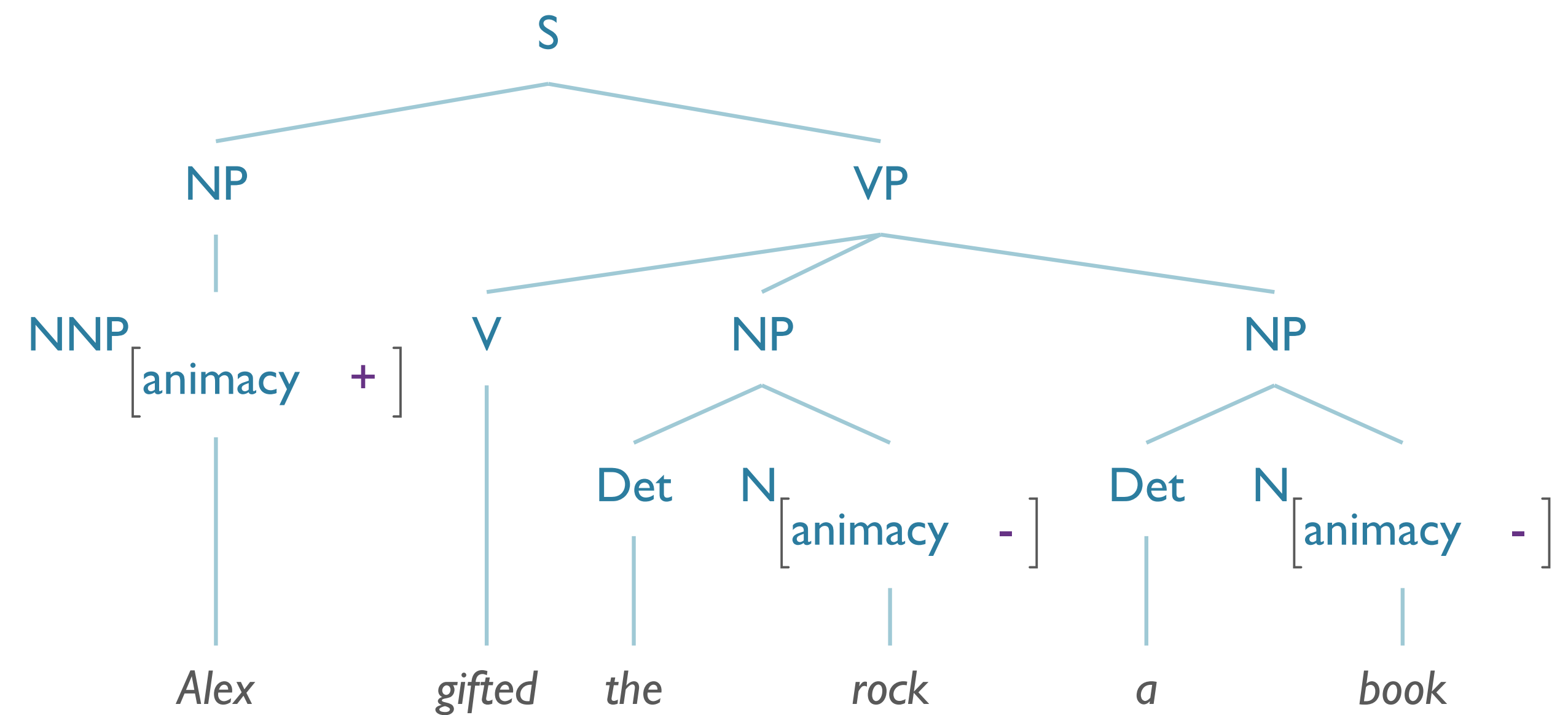
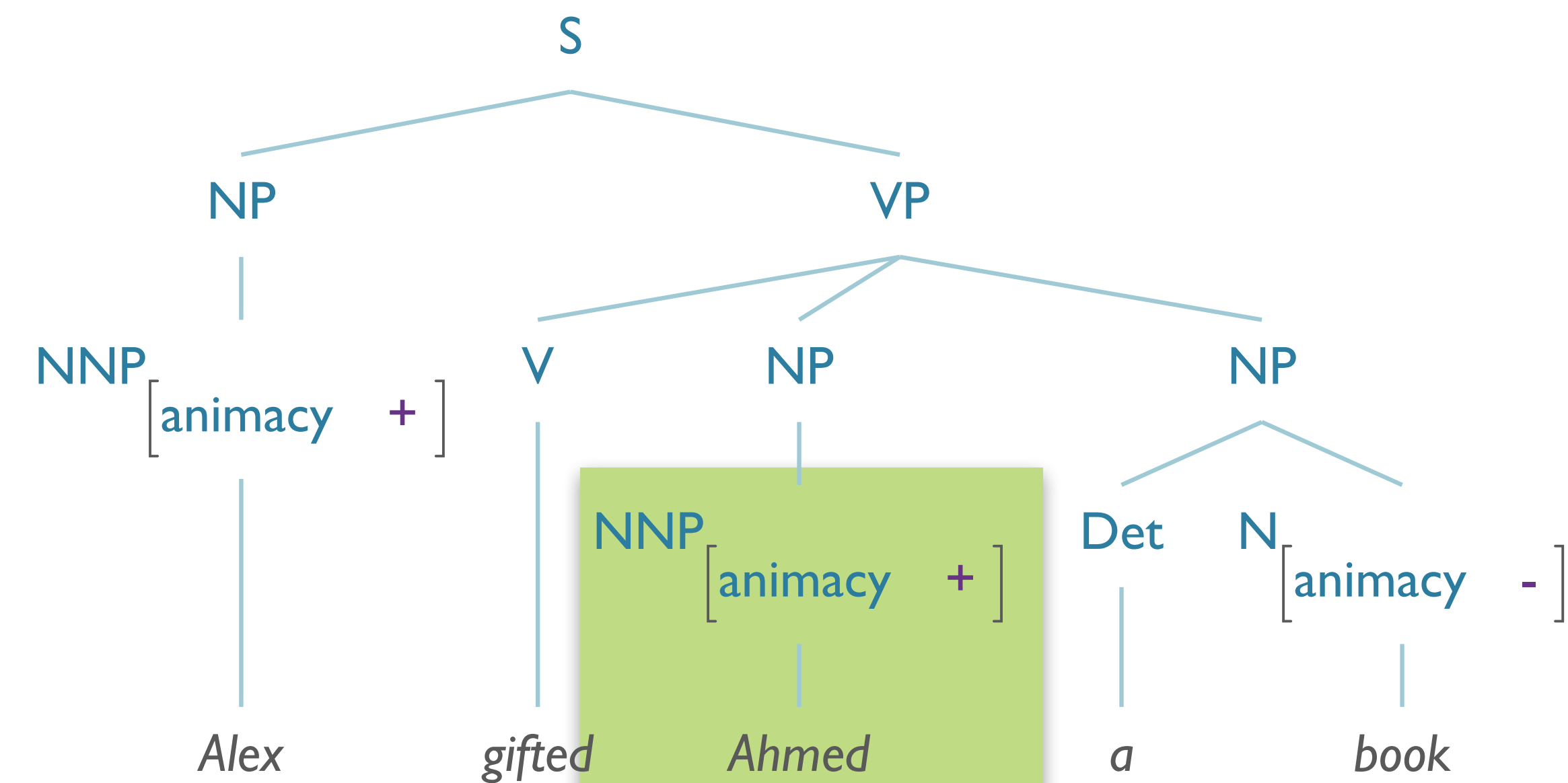
Det → 'a' | 'the'

N[animacy=False] → 'book' | 'rock'

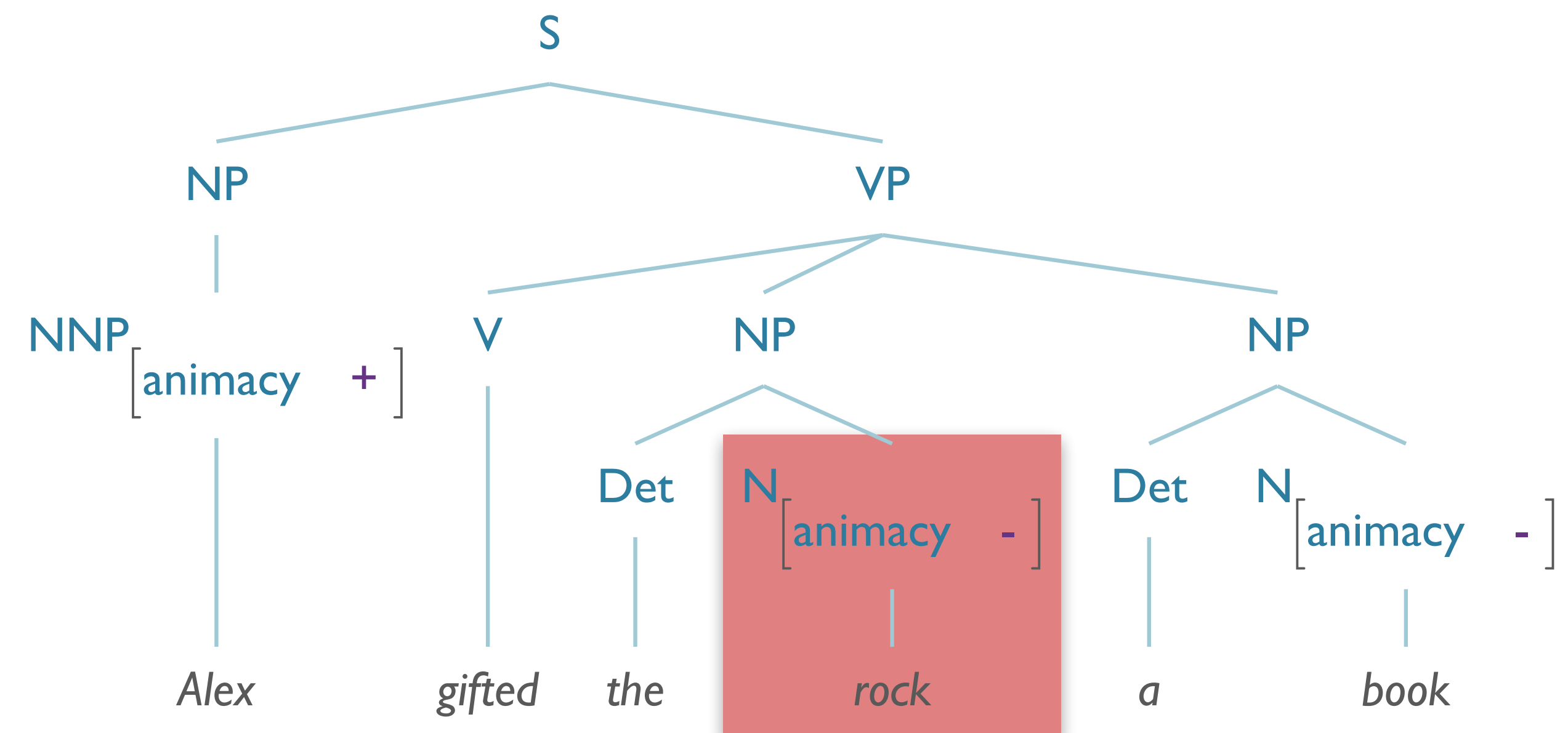
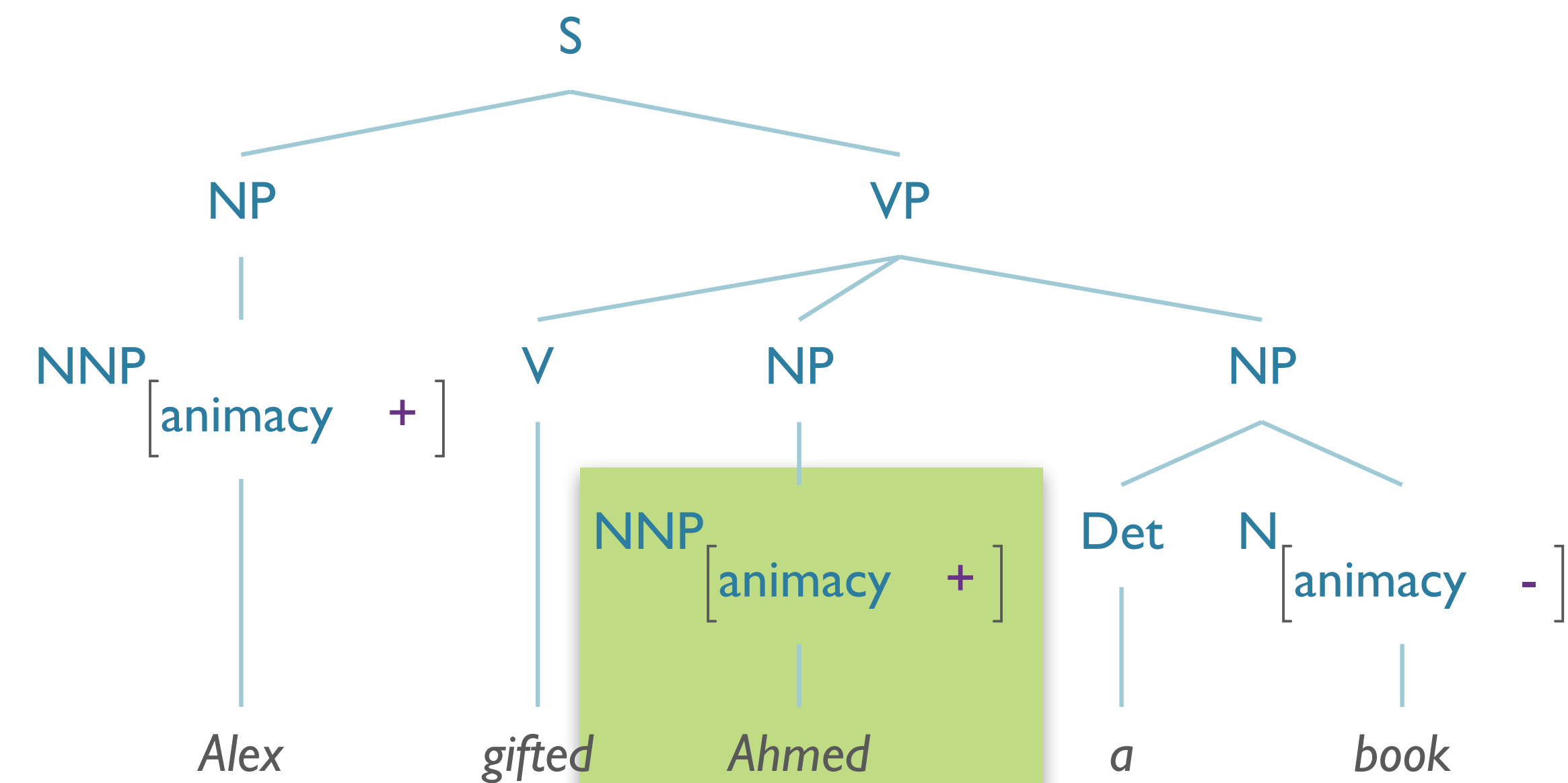
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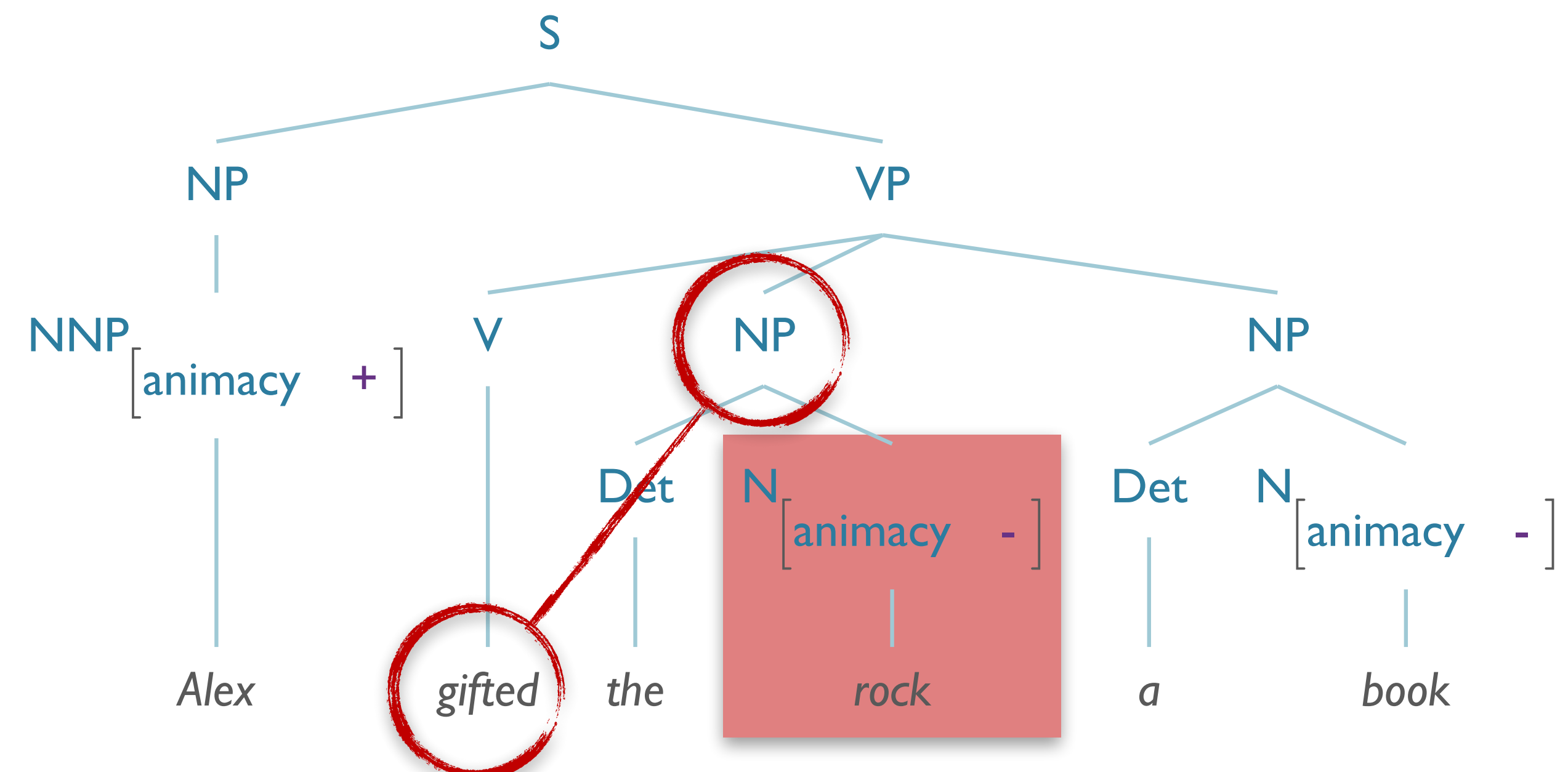
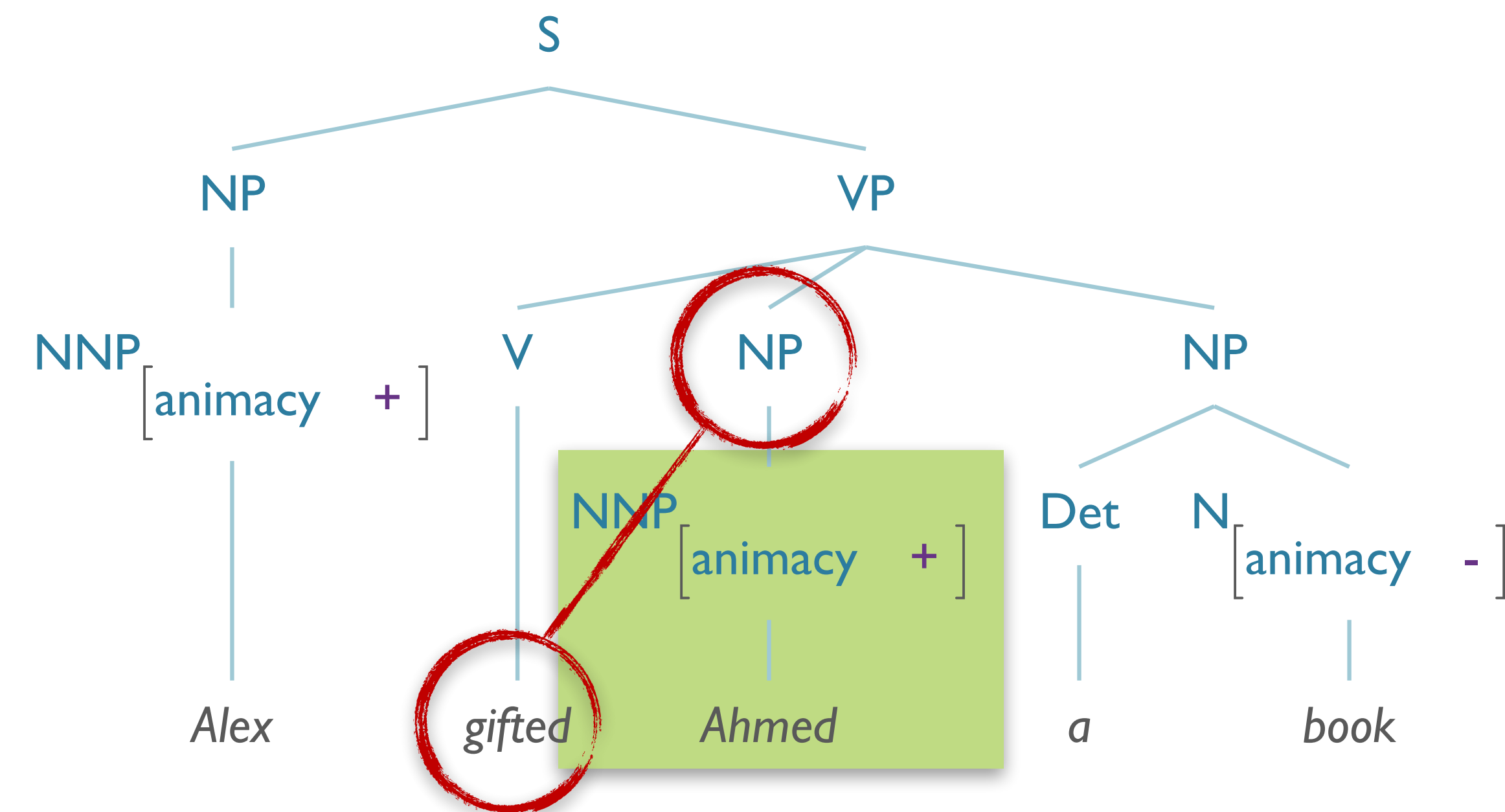
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A possible solution

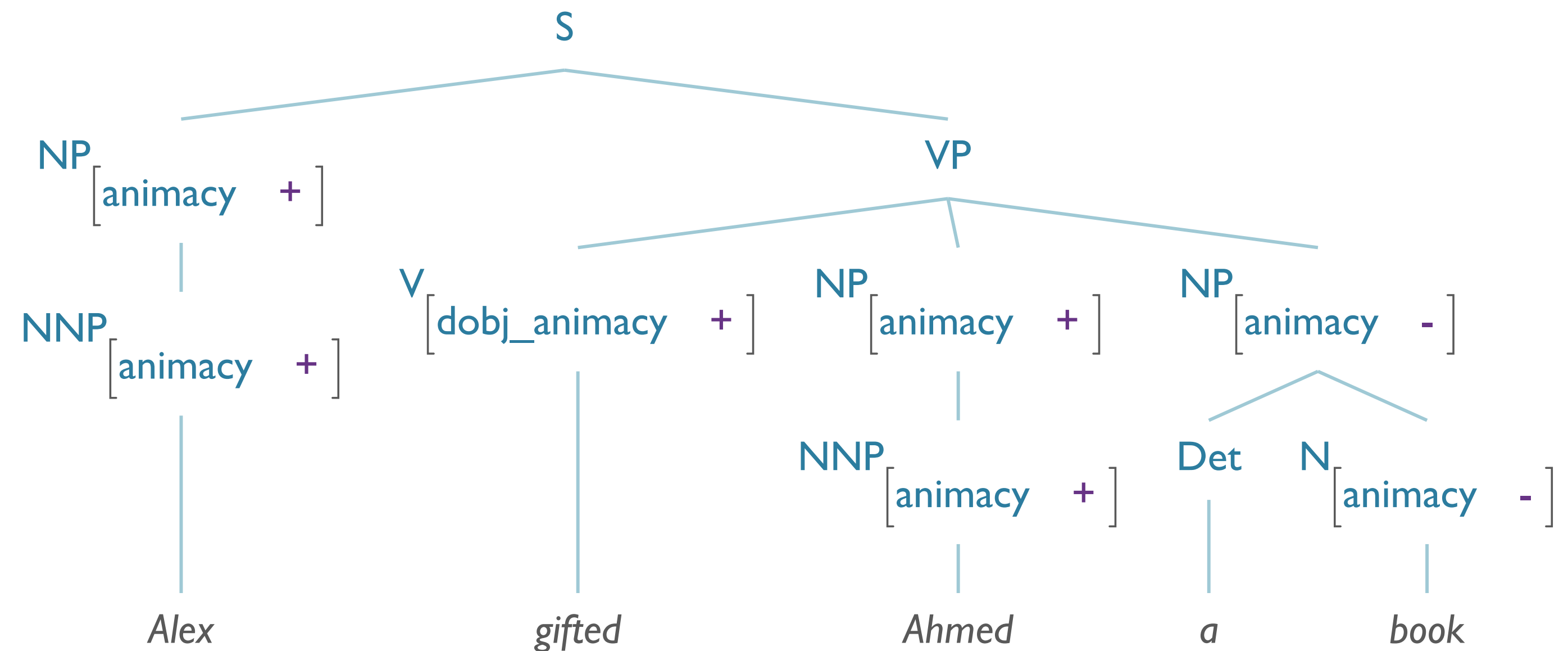
```
grammar='''%start S
S -> NP VP
```

```
# In this analysis, we create agreement between  
# a verb requires an animate arg (but doesn't  
# have an 'animacy' characteristic itself)
```

```
VP -> V[dobj_animacy=?oa] NP[animacy=?oa] NP
V[dobj_animacy=True] -> 'gifted'
```

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NP[animacy=?a] -> NNP[animacy=?a]
NP[animacy=?a] -> Det N[animacy=?a]
NNP[animacy=True] -> 'Alex' | 'Ahmed'
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```
Det -> 'a' | 'the'
N[animacy=False] -> 'book' | 'rock'
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A possible solution

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# have an 'animacy' characteristic itself)
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NP[animacy=?a] -> NNP[animacy=?a]  
NP[animacy=?a] -> Det N[animacy=?a]  
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Det -> 'a' | 'the'  
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