# LING 8700 Lecture Notes 4, Step Through

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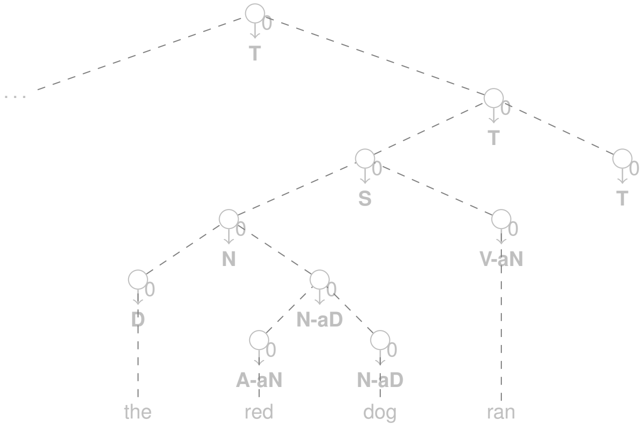
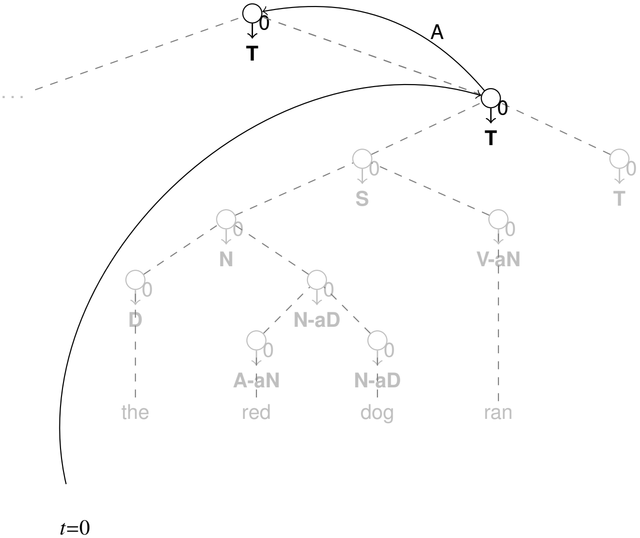
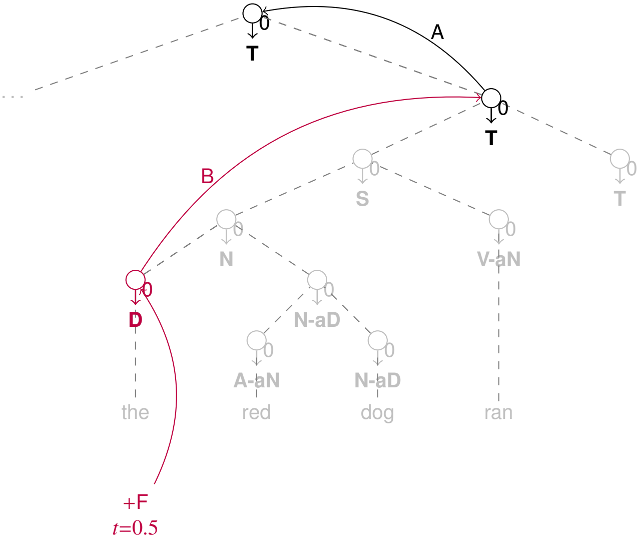
# Decoding ‘*The red dog ran.*’


0
T
. . .
0
T
0
S
0
T
0
N
0
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran

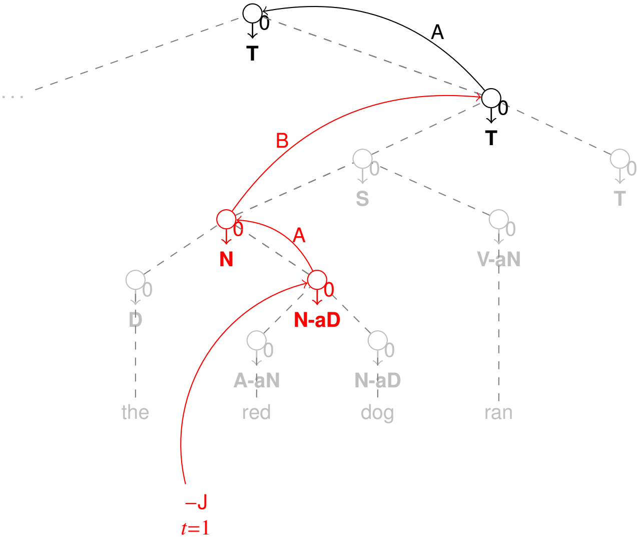
# Decoding ‘*The red dog ran.*’


0
T
A
0
T
0
S
0
T
0
N
0
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran
...
t=0

# Decoding ‘*The red dog ran.*’

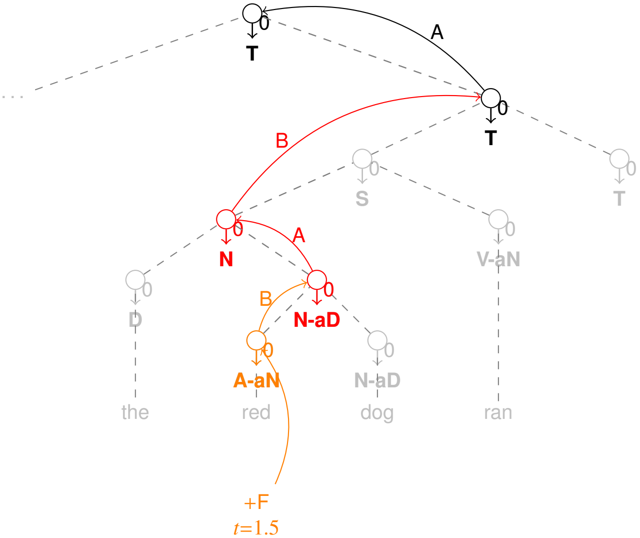

A
0
T
0
T
B
0
S
0
T
0
N
0
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran
+F
t=0.5

# Decoding '*The red dog ran.*'

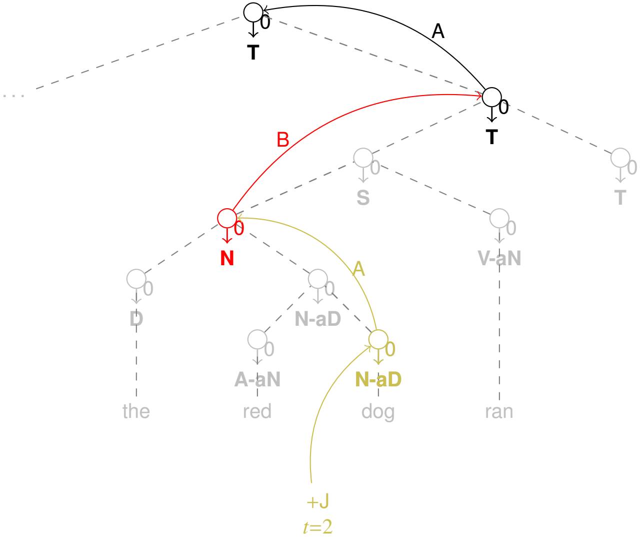


A
T
0
B
T
0
S
0
T
0
N
0
A
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
0
the
red
dog
ran
−J
t=1

# Decoding ‘*The red dog ran.*’

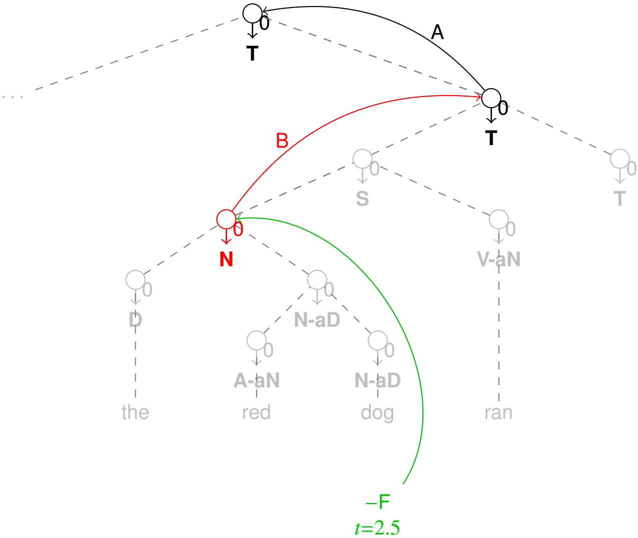

A
T
0
T
0
B
S
0
T
0
N
0
A
V-aN
0
D
0
B
N-aD
0
A-aN
0
N-aD
0
the
red
dog
ran
+F
t=1.5

# Decoding ‘*The red dog ran.*’

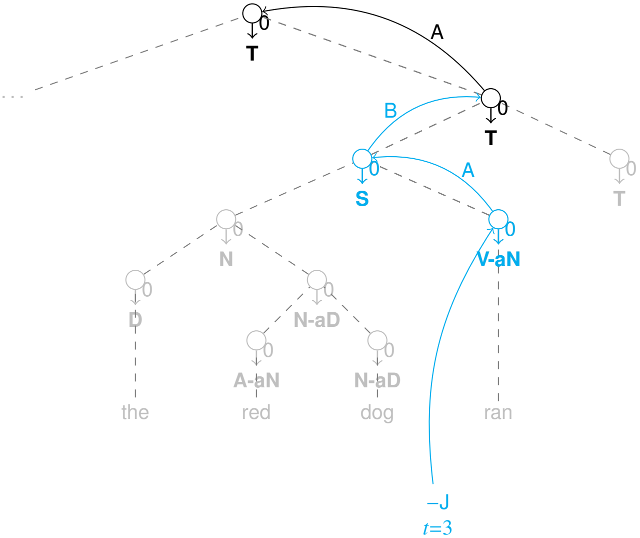


0
T
A
0
T
B
0
S
0
T
0
N
0
V-aN
A
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran
. . .
+J
t=2

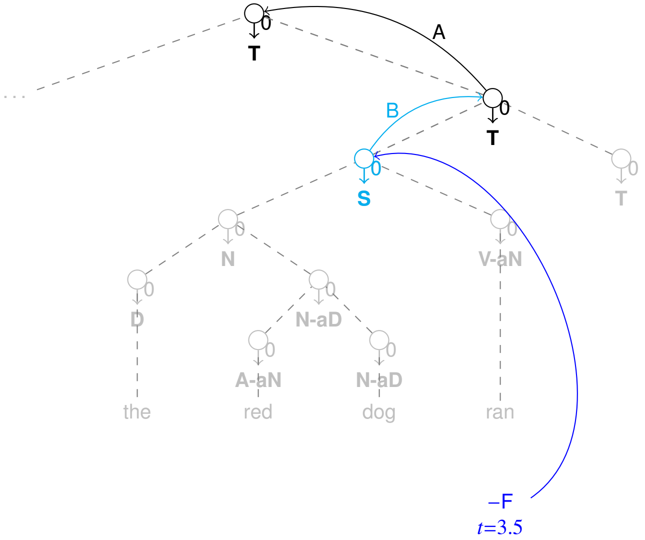
# Decoding '*The red dog ran.*'


A
0
T
B
0
T
0
S
0
T
0
N
0
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran
–F
t=2.5
. . .

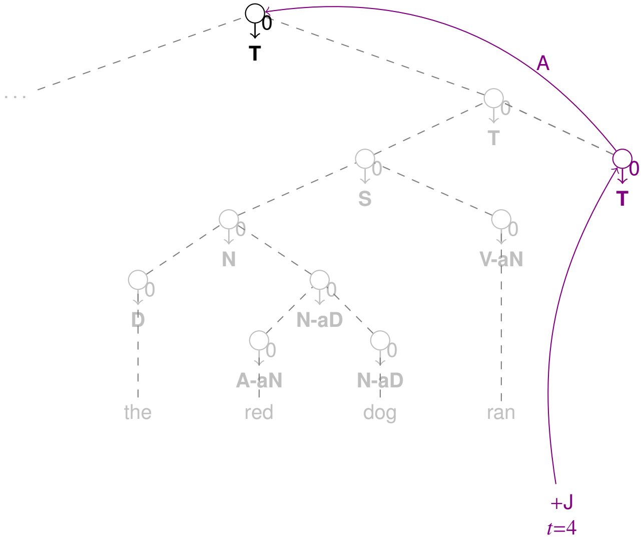
# Decoding '*The red dog ran.*'


A
0
T
B
0
T
0
A
S
0
T
0
N
0
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran
. . .
−J
t=3

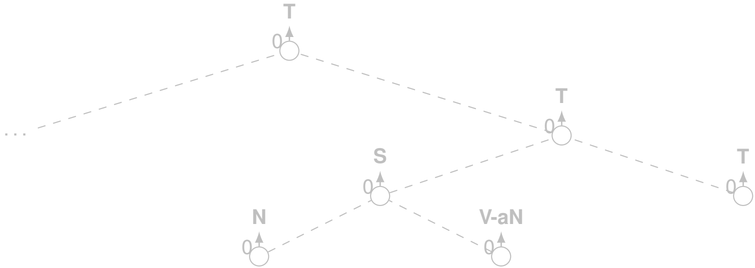
# Decoding '*The red dog ran.*'


0
T
A
B
0
T
0
S
0
T
0
N
0
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran
–F
t=3.5

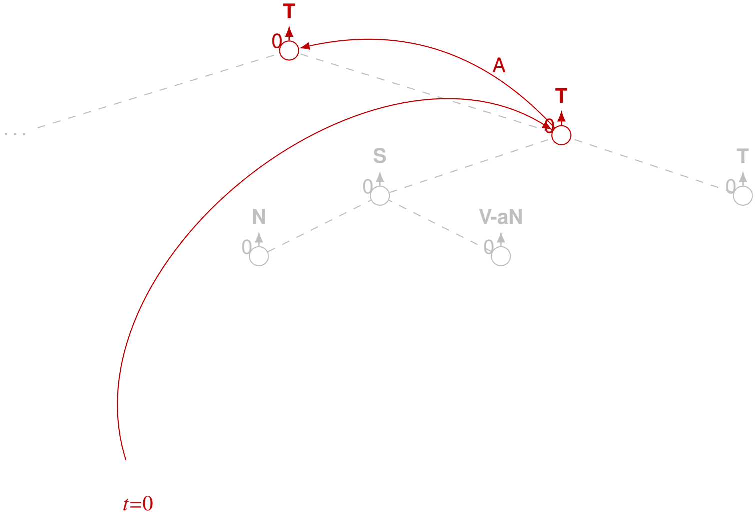
# Decoding ‘*The red dog ran.*’


0
T
. . .
A
0
T
0
T
0
S
0
N
0
V-aN
0
D
0
N-aD
0
A-aN
0
N-aD
the
red
dog
ran
+J
t=4

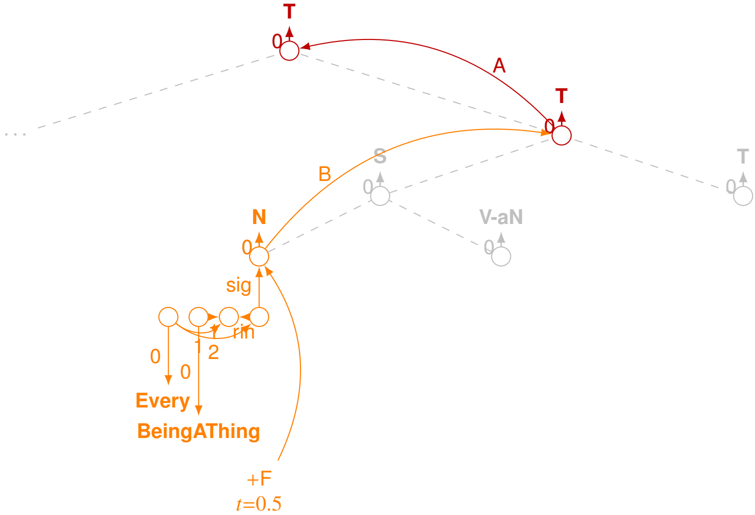
# Decoding w. arguments: ‘*Everything works.*’


T
0
...
T
0
S
0
T
0
N
0
V-aN
0

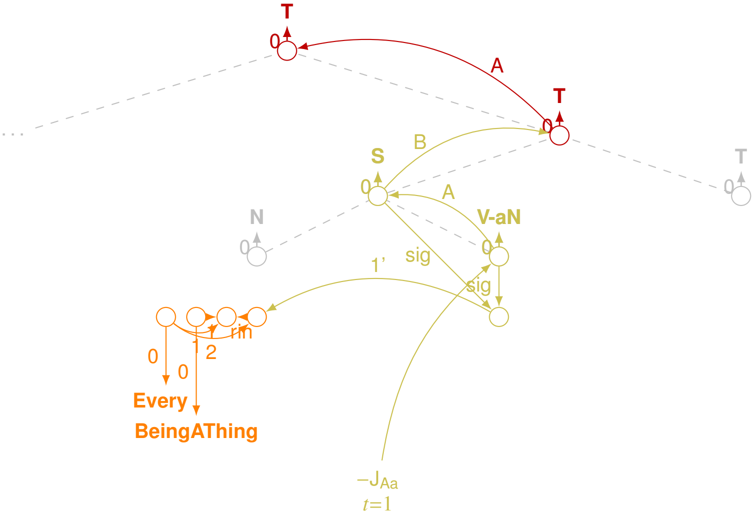
# Decoding w. arguments: ‘*Everything works.*’


T
0
A
T
0
. . .
S
0
T
0
N
0
V-aN
0
t=0

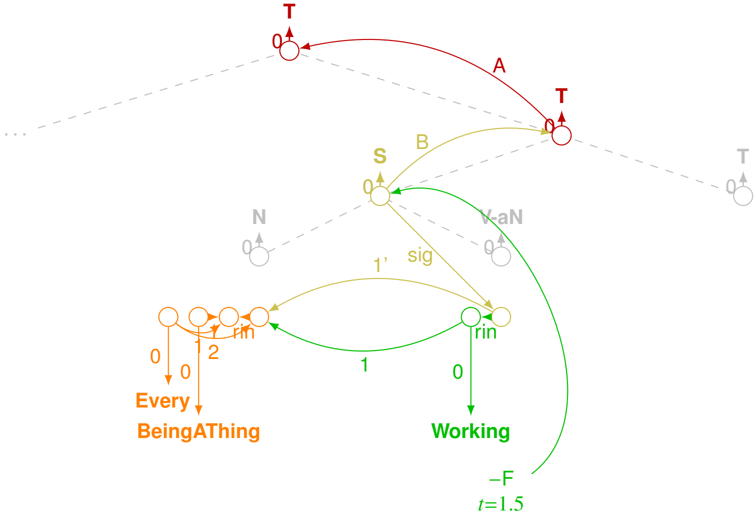
# Decoding w. arguments: ‘*Everything works.*’


T
0
A
T
0
…
B
S
0
T
0
N
0
V-aN
0
sig
r
rin
0
1
2
0
Every
BeingAThing
+F
t=0.5

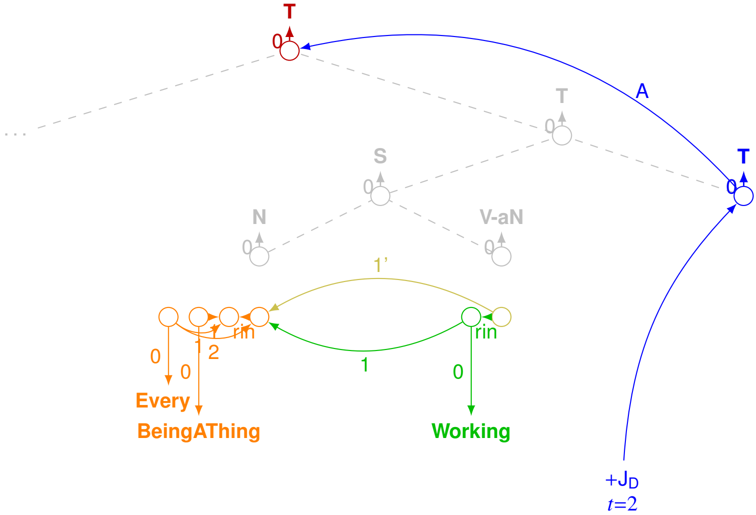
# Decoding w. arguments: ‘*Everything works.*’


T
0
A
T
0
B
S
0
A
T
0
N
0
V-aN
0
sig
1’
sig
rin
1
2
0
0
Every
BeingAThing
$-\mathrm{J}_{\mathrm{Aa}}$
$t{=}1$

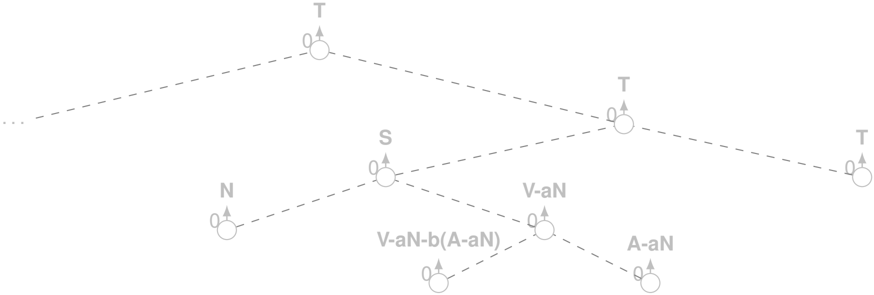
# Decoding w. arguments: ‘*Everything works.*’


T
0
A
T
0
B
S
0
T
0
N
0
V-aN
0
sig
1’
rin
1 2
0
0
rin
1
0
Every
BeingAThing
Working
−F
$t$=1.5

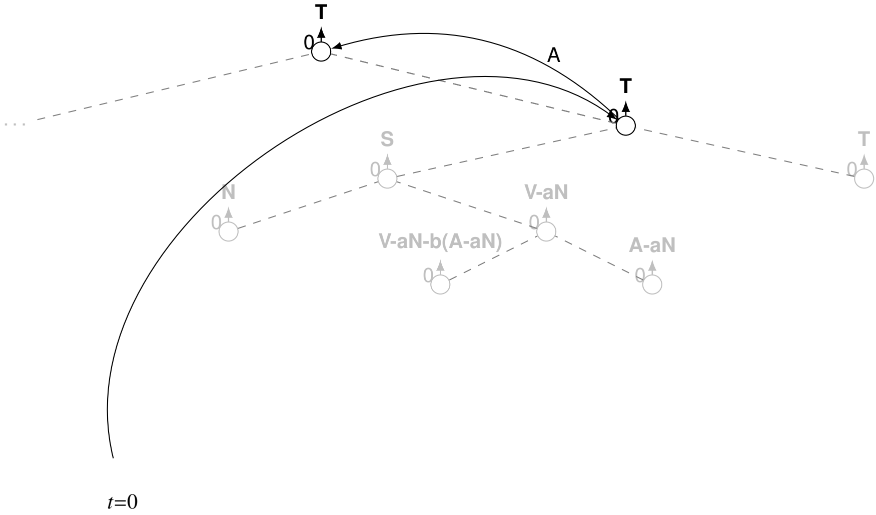
# Decoding w. arguments: ‘*Everything works.*’


T
0
A
T
0
S
0
T
0
N
0
V-aN
0
1’
rin
rin
0
1
2
0
1
0
Every
BeingAThing
Working
$+J_D$
$t=2$

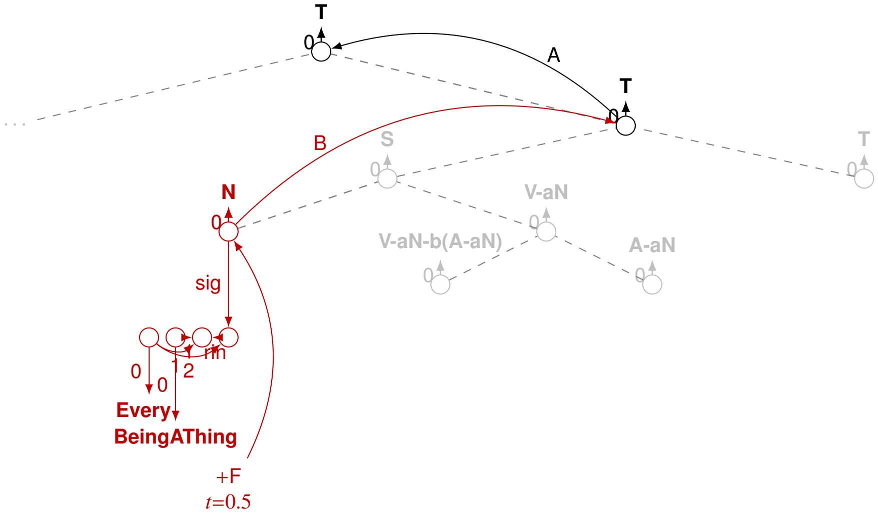
# Decoding w. auxiliaries: ‘*Everything is here.*’


T
0
...
T
0
S
0
T
0
N
0
V-aN
0
V-aN-b(A-aN)
0
A-aN
0

# Decoding w. auxiliaries: ‘*Everything is here.*’

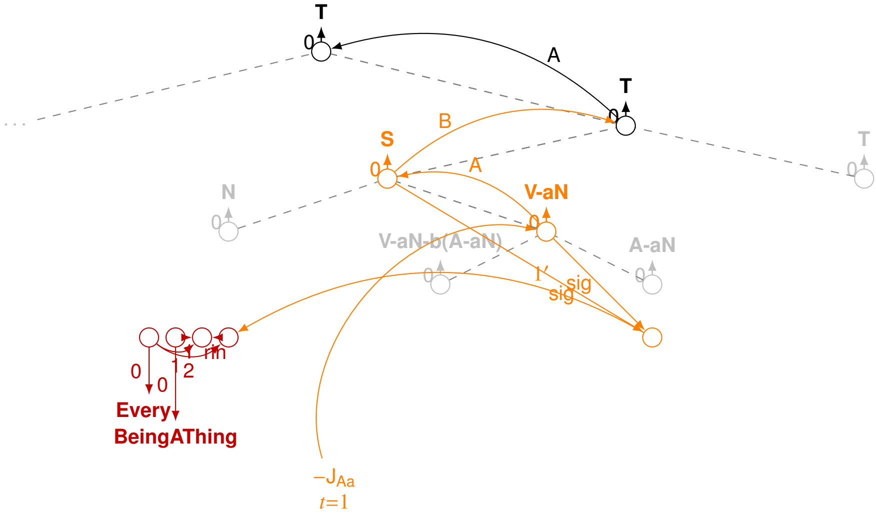

T
0
A
T
0
· · ·
S
0
T
0
N
0
V-aN
0
V-aN-b(A-aN)
0
A-aN
0
$t$=0

# Decoding w. auxiliaries: ‘*Everything is here.*’



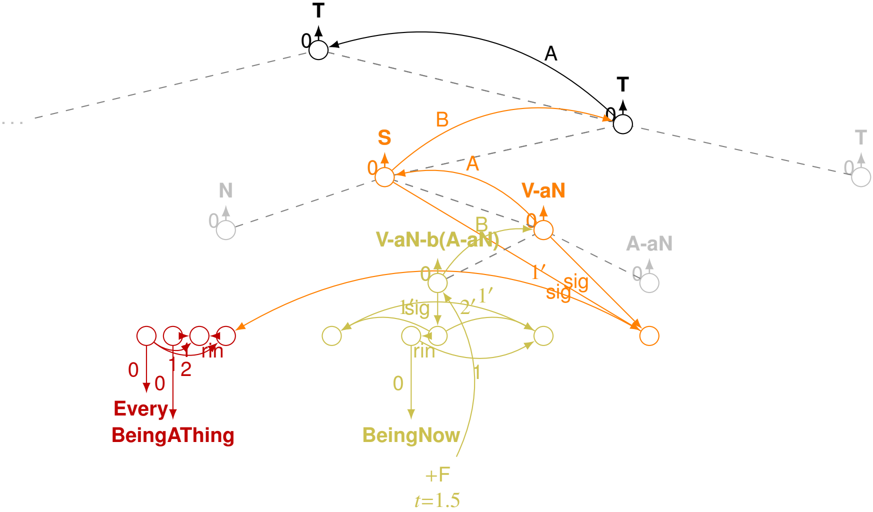
T
0
A
T
0
B
S
0
T
0
N
0
V-aN
0
V-aN-b(A-aN)
0
A-aN
0
sig
rin
0
1
2
0
Every
BeingAThing
+F
t=0.5
. . .

# Decoding w. auxiliaries: ‘*Everything is here.*’

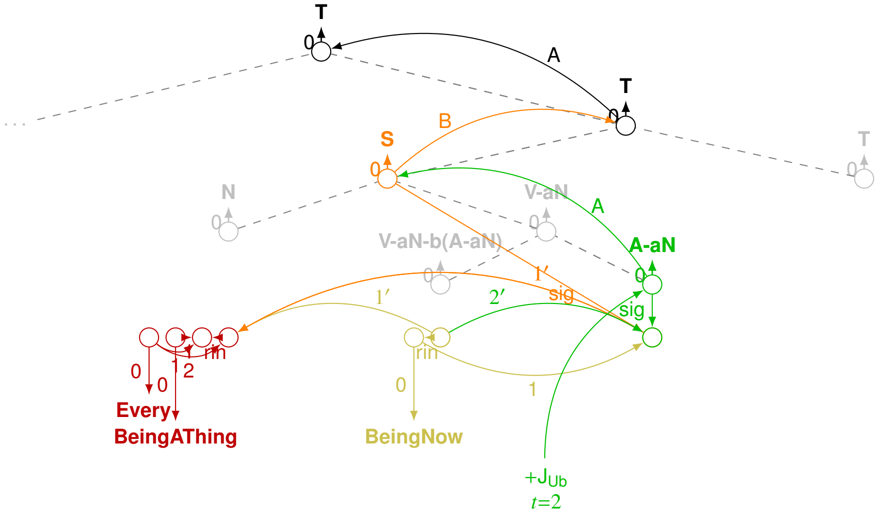


T
0
A
T
0
B
S
0
A
N
0
V-aN
0
V-aN-b(A-aN)
0
A-aN
0
T
0
1′
sig
sig
rin
0
0
1
2
Every
BeingAThing
$-J_{\mathrm{Aa}}$
$t=1$
. . .

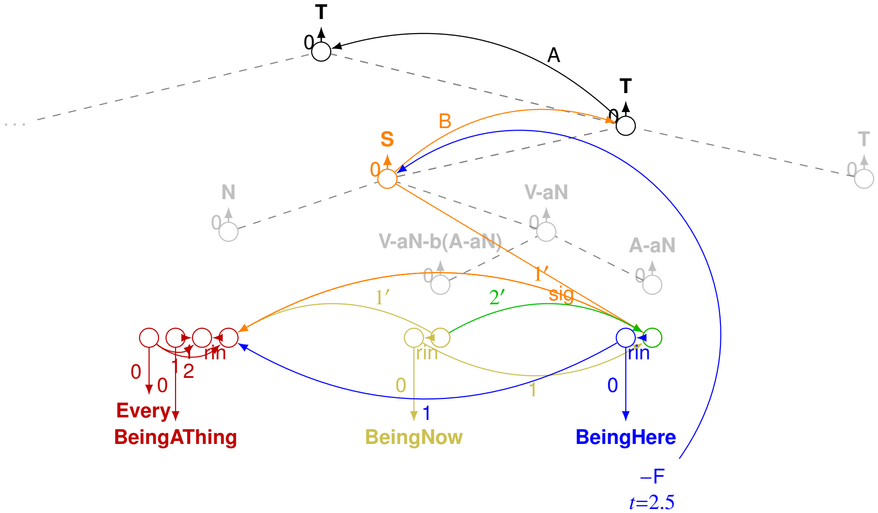
# Decoding w. auxiliaries: ‘*Everything is here.*’


T
0
A
T
0
. . .
B
S
0
A
N
0
V-aN
0
B
T
0
A-aN
0
V-aN-b(A-aN)
0
1′
sig
sig
1′
1′sig
2′
rin
rin
0
1
2
0
0
Every
BeingAThing
0
1
BeingNow
+F
t=1.5

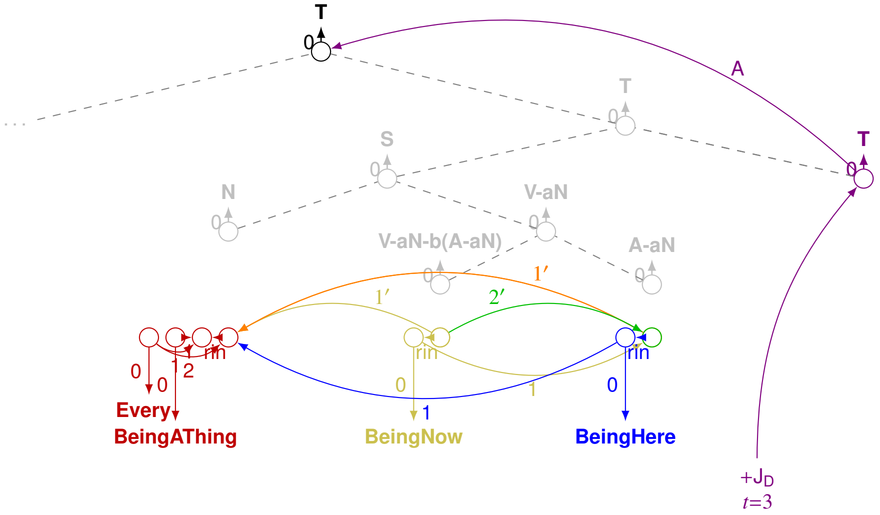
# Decoding w. auxiliaries: ‘*Everything is here.*’


T
0
A
T
0
B
S
0
T
0
N
0
V-aN
0
A
V-aN-b(A-aN)
0
A-aN
0
1′
sig
1′
2′
sig
rin
0
1
2
0
Every
BeingAThing
rin
0
1
BeingNow
+J_Ub
t=2
. . .

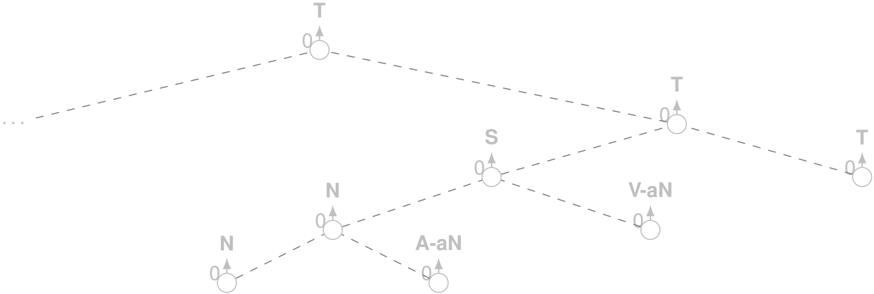
# Decoding w. auxiliaries: ‘*Everything is here.*’


T
0
A
T
0
B
S
0
N
0
V-aN
0
T
0
V-aN-b(A-aN)
0
A-aN
0
1′
1′
sig
2′
rin
rin
rin
0
0
1
2
0
1
1
0
Every
BeingAThing
BeingNow
BeingHere
−F
$t$=2.5

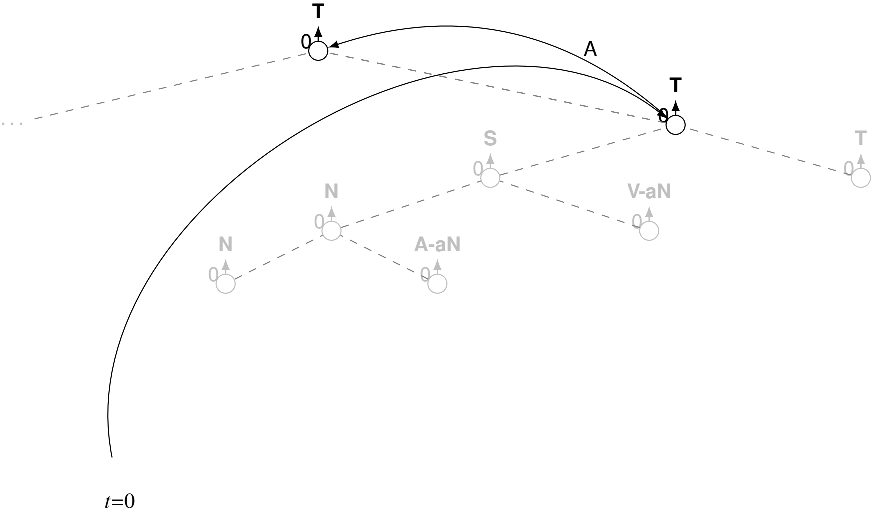
# Decoding w. auxiliaries: ‘*Everything is here.*’


T
0
. . .
A
T
0
S
0
N
0
V-aN
0
T
0
V-aN-b(A-aN)
0
A-aN
0
1′
1′
2′
rin
rin
rin
0
0
1
2
0
1
1
0
Every
BeingAThing
BeingNow
BeingHere
+J$_D$
$t$=3

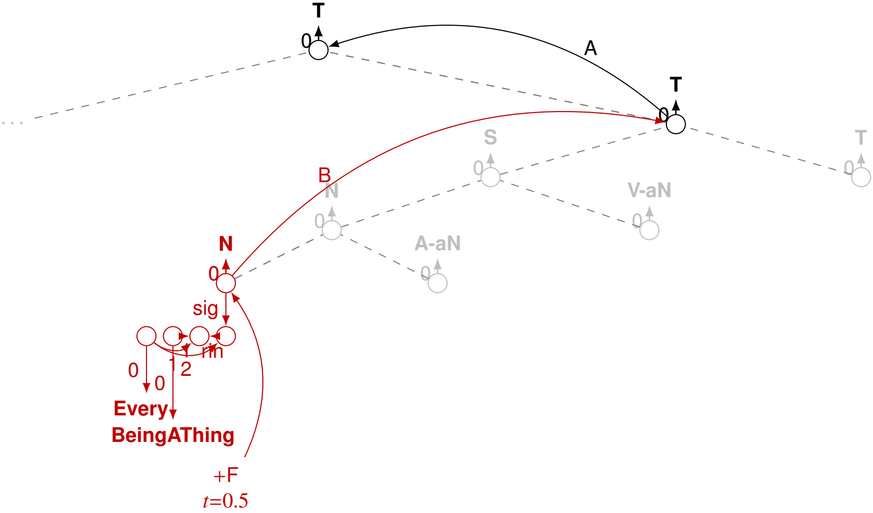
# Decoding w. modifiers: '*Everything here works.*'


T
0
. . .
T
0
S
0
T
0
N
0
V-aN
0
N
0
A-aN
0

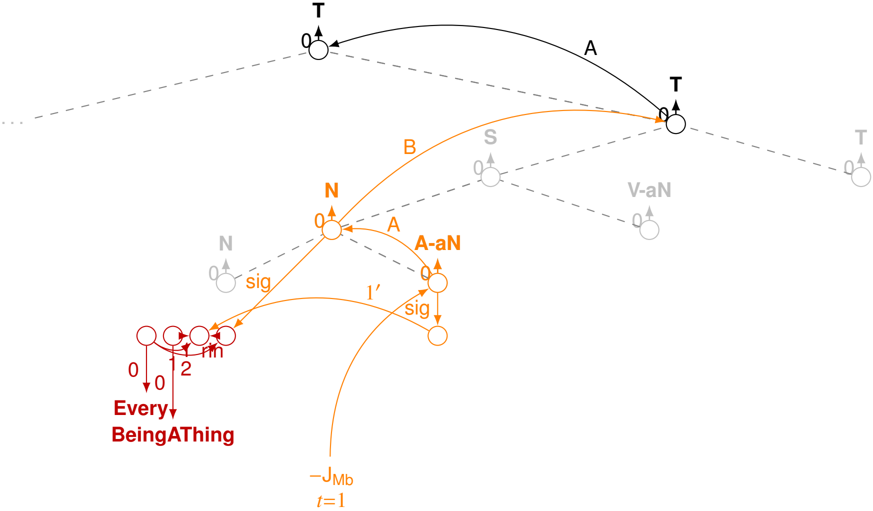
# Decoding w. modifiers: ‘*Everything here works.*’


T
0
A
T
0
S
0
T
0
N
0
V-aN
0
N
0
A-aN
0
...
t=0

# Decoding w. modifiers: ‘*Everything here works.*’

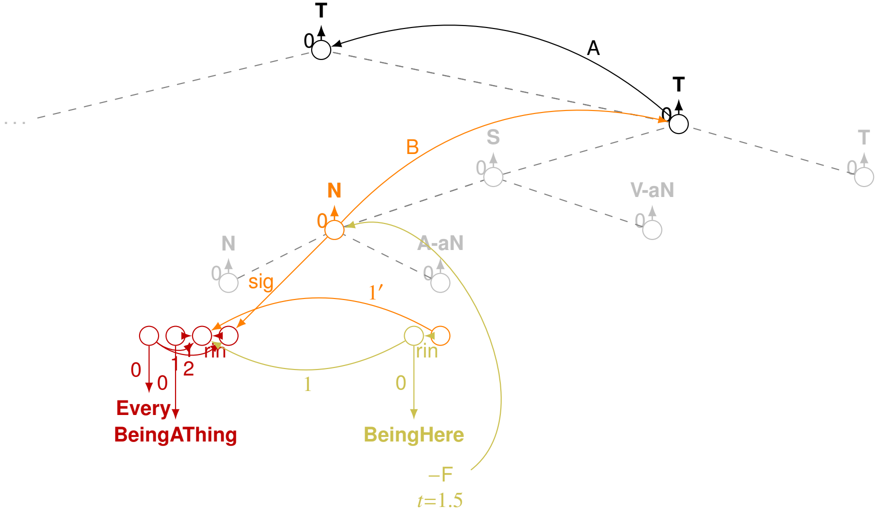

T
0
A
T
0
. . .
S
0
T
0
B
N
0
V-aN
0
A-aN
0
N
0
sig
rin
1
2
0
0
Every
BeingAThing
+F
$t$=0.5

# Decoding w. modifiers: ‘*Everything here works.*’



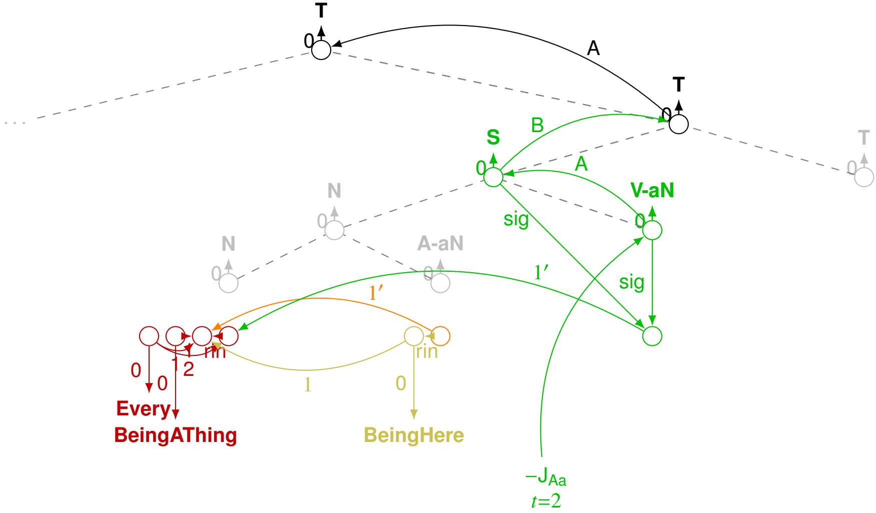
T
0
A
T
0
B
S
0
T
0
N
0
A
V-aN
0
N
0
A-aN
0
sig
1′
sig
rin
0
1
2
0
Every
BeingAThing
$-J_{Mb}$
$t=1$

# Decoding w. modifiers: ‘*Everything here works.*’



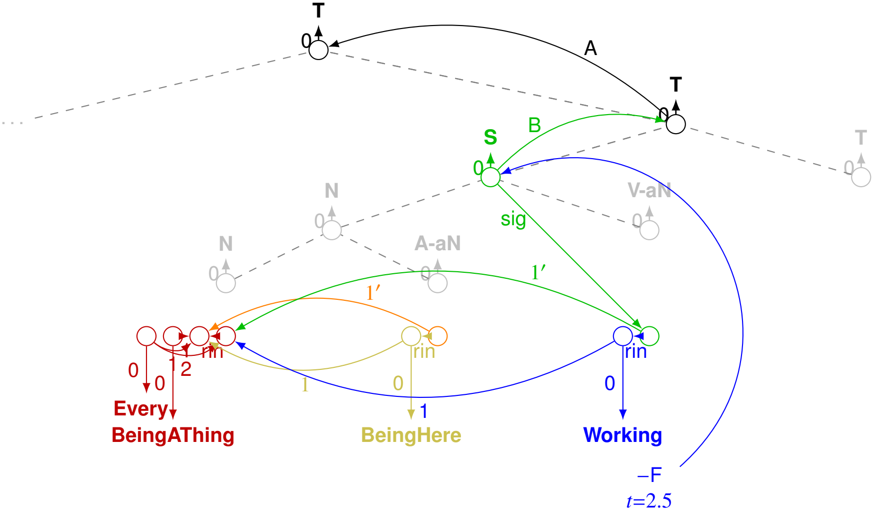
T
0
A
T
0
B
S
0
T
0
N
0
V-aN
0
N
0
A-aN
0
sig
1′
rin
rin
1
2
0
0
1
0
Every
BeingAThing
BeingHere
–F
$t$=1.5

# Decoding w. modifiers: ‘*Everything here works.*’

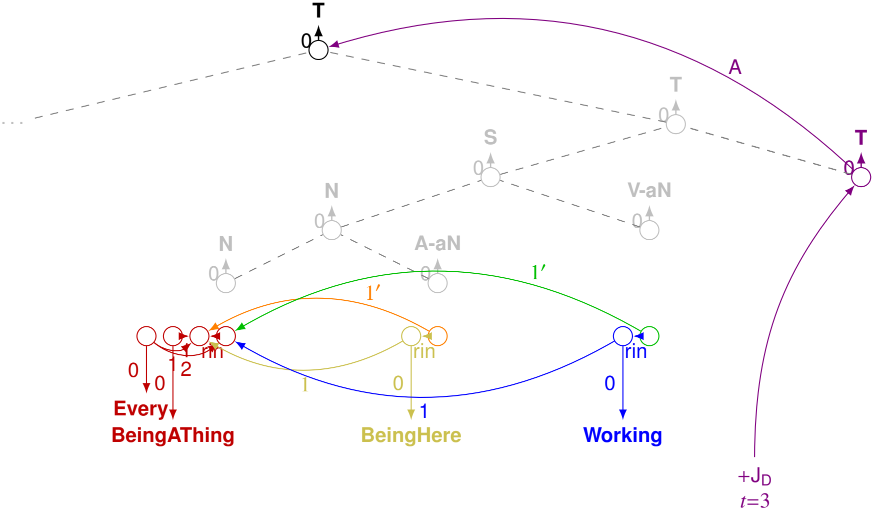


T
0
A
T
0
B
S
0
A
T
0
V-aN
0
N
0
sig
sig
N
0
A-aN
0
1′
1′
0
0
1
2
rin
rin
1
0
Every
BeingAThing
BeingHere
$-J_{Aa}$
$t{=}2$

# Decoding w. modifiers: ‘*Everything here works.*’

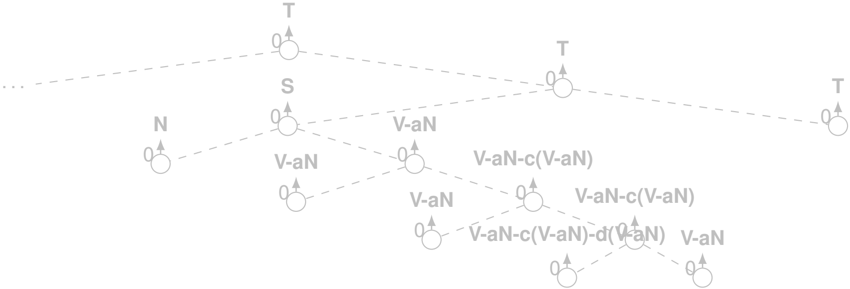

T
0
A
T
0
T
0
B
S
0
sig
N
0
V-aN
0
N
0
A-aN
0
1′
1′
rin
rin
rin
0
1
2
0
1
0
0
1
0
Every
BeingAThing
BeingHere
Working
−F
$t$=2.5

# Decoding w. modifiers: '*Everything here works.*'

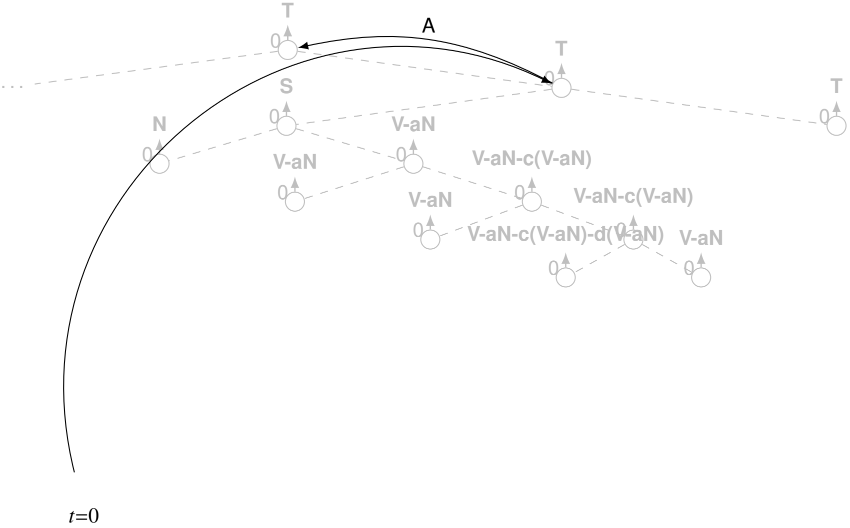


T
0
A
T
0
T
0
S
0
V-aN
0
N
0
N
0
A-aN
0
1′
1′
rin
rin
rin
0
0
1
2
1
0
1
0
Every
BeingAThing
BeingHere
Working
+J_D
t=3
. . .

# Decoding conjunctions: ‘*Everything starts, runs & stops.*’

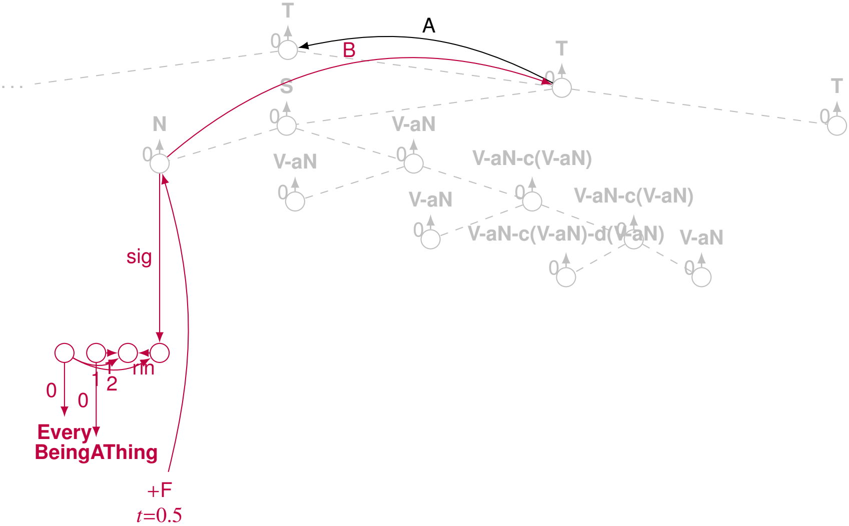

T
0
. . .
T
0
S
0
T
0
N
0
V-aN
0
V-aN
0
V-aN-c(V-aN)
0
V-aN
0
V-aN-c(V-aN)
0
V-aN-c(V-aN)-d(V-aN)
0
V-aN
0

# Decoding conjunctions: ‘*Everything starts, runs & stops.*’

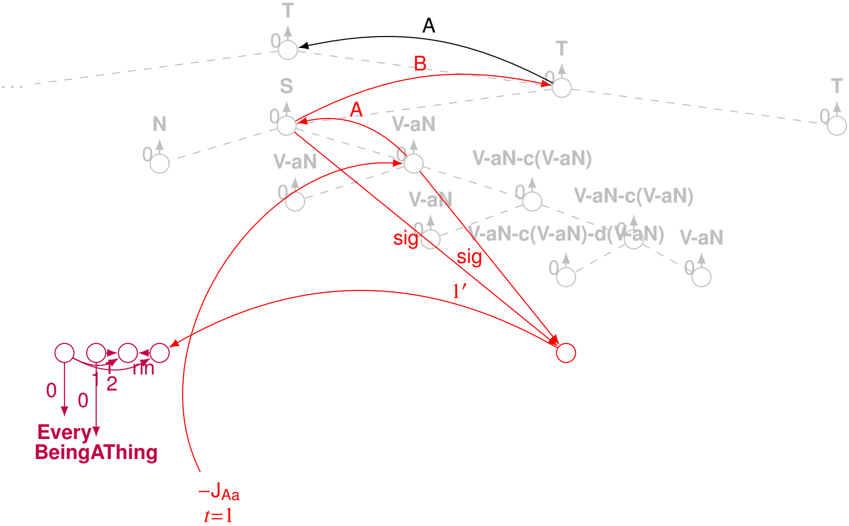


A
T
T
T
S
N
V-aN
V-aN
V-aN-c(V-aN)
V-aN
V-aN-c(V-aN)
V-aN-c(V-aN)-d(V-aN)
V-aN
0
. . .
t=0

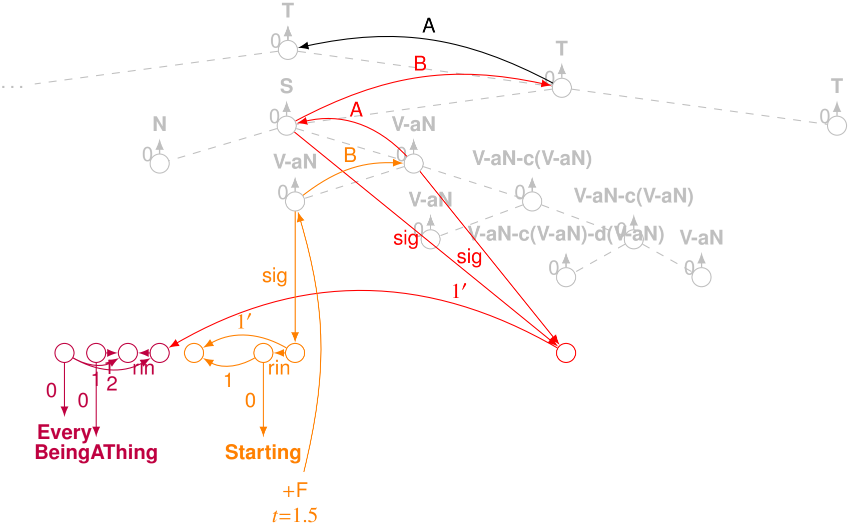
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


T
A
B
T
S
T
N
V-aN
V-aN
V-aN-c(V-aN)
V-aN
V-aN-c(V-aN)
V-aN-c(V-aN)-d(V-aN)
V-aN
0
...
sig
rin
1
2
0
0
**Every**
**BeingAThing**
+F
$t$=0.5

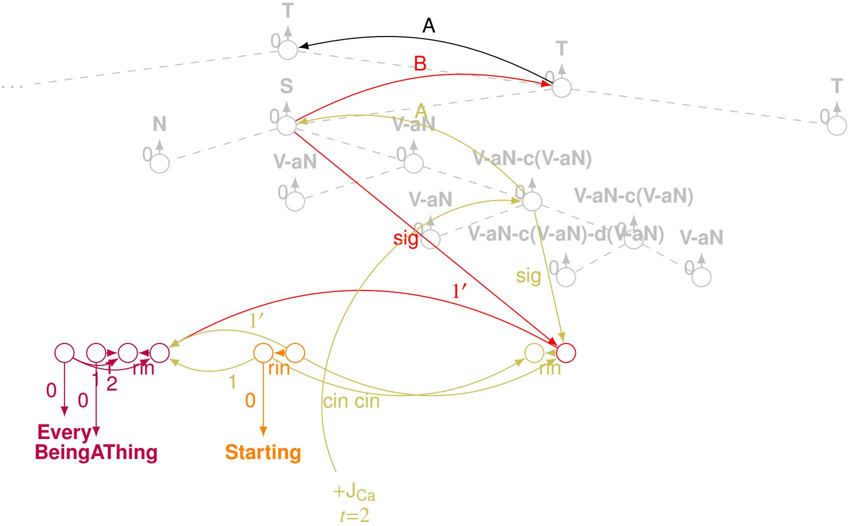
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


T
A
T
B
T
S
A
N
V-aN
V-aN-c(V-aN)
V-aN
V-aN
V-aN-c(V-aN)
V-aN-c(V-aN)-d(V-aN)
V-aN
sig
sig
1′
0
0
0
0
0
0
0
0
0
0
0
0
. . .
1
2
rin
0
0
Every
BeingAThing
−J_Aa
t=1

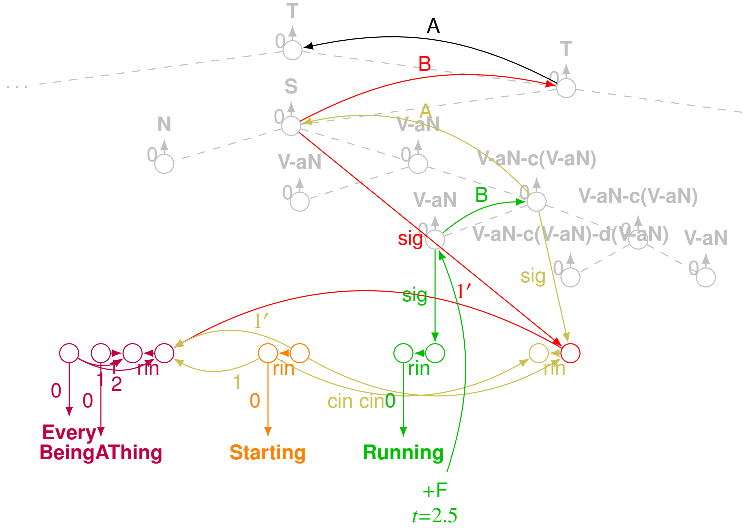
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


A
T
B
T
0
0
...
S
0
A
N
V-aN
T
0
0
0
V-aN
B
V-aN-c(V-aN)
0
0
0
V-aN
V-aN-c(V-aN)
sig
V-aN-c(V-aN)-d(V-aN)
V-aN
0
sig
0
0
sig
1′
1′
rin
rin
1
2
1
0
0
1
0
Every
BeingAThing
Starting
+F
$t$=1.5

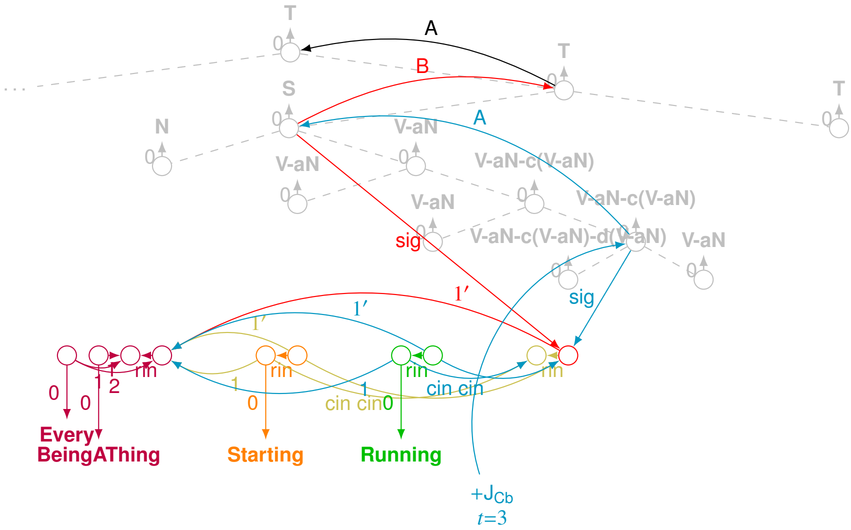
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


T
A
B
T
S
A
T
N
V-aN
V-aN
V-aN-c(V-aN)
V-aN
V-aN-c(V-aN)
V-aN-c(V-aN)-d(V-aN)
V-aN
sig
sig
1′
1′
0
0
0
0
0
0
0
0
0
0
0
0
0
...
rin
rin
rin
1
1
2
1
0
0
0
cin cin
Every
BeingAThing
Starting
$+J_{Ca}$
$t$=2

# Decoding conjunctions: ‘*Everything starts, runs & stops.*’

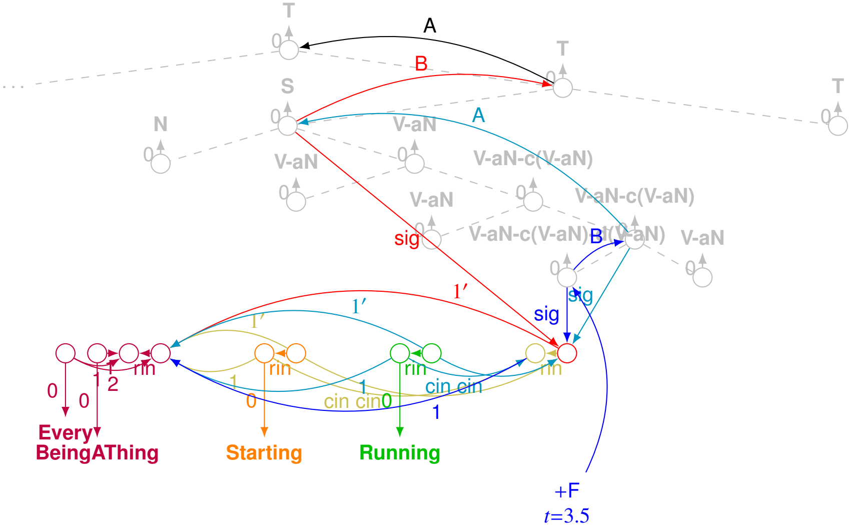

T
A
T
B
T
S
A
N
V-aN
V-aN-c(V-aN)
V-aN
B
V-aN-c(V-aN)
V-aN
sig
V-aN-c(V-aN)-d(V-aN)
V-aN
sig
sig
1′
1′
rin
rin
rin
rin
0
0
1
2
1
0
cin cin
0
Every
BeingAThing
Starting
Running
+F
t=2.5

# Decoding conjunctions: ‘*Everything starts, runs & stops.*’

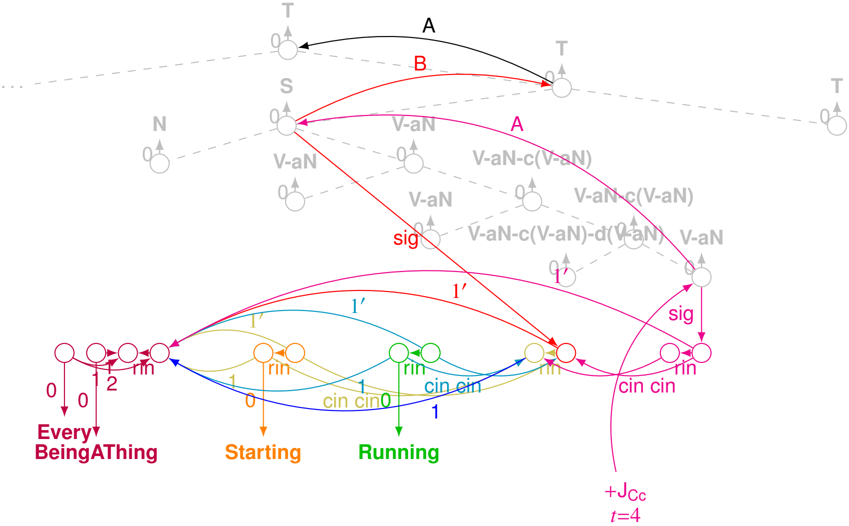


T
A
T
B
T
S
N
V-aN
A
V-aN-c(V-aN)
V-aN
V-aN
V-aN-c(V-aN)
sig
V-aN-c(V-aN)-d(V-aN)
V-aN
sig
0
0
0
0
0
0
0
0
0
0
0
0
1′
1′
1′
rin
rin
rin
rin
1
1
2
0
0
1
0
1
cin cin
cin cin
0
Every
BeingAThing
Starting
Running
$+J_{Cb}$
$t=3$

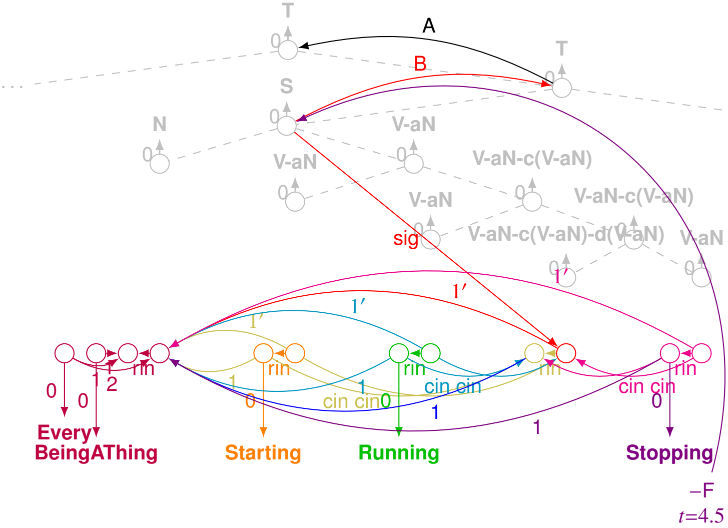
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


T
A
0
T
B
0
T
S
0
...
0
A
N
0
V-aN
0
V-aN
V-aN-c(V-aN)
0
0
V-aN
V-aN-c(V-aN)
sig
0
V-aN-c(V-aN)-c(V-aN)
B
0
V-aN
0
1′
1′
1′
sig
sig
0
1
2
rin
rin
1
rin
0
1
cin cin
cin cin
0
rin
0
0
1
Every
BeingAThing
Starting
Running
+F
t=3.5

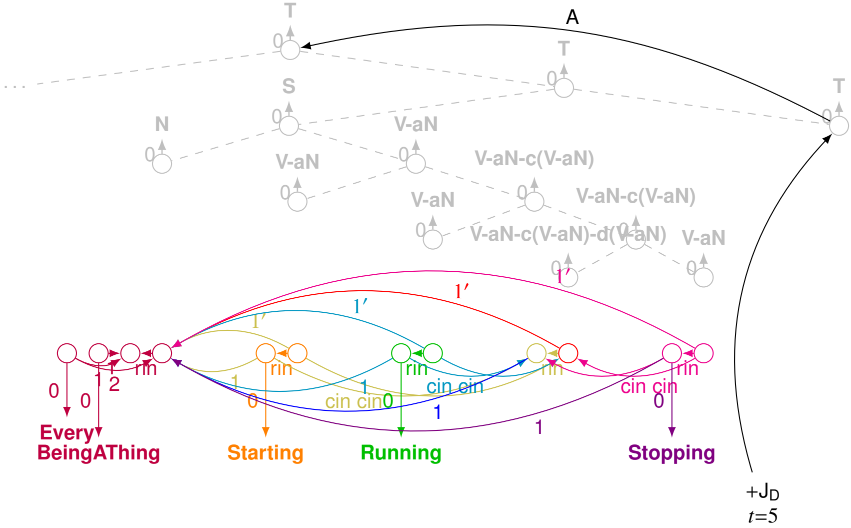
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


A
B
A
T
T
T
S
N
V-aN
V-aN
V-aN-c(V-aN)
V-aN
V-aN-c(V-aN)
V-aN-c(V-aN)-d(V-aN)
V-aN
sig
sig
$1'$
$1'$
$1'$
$1'$
$1'$
rin
rin
rin
rin
rin
cin cin
cin cin
cin cin
0
0
1
2
0
1
1
0
1
**Every BeingAThing**
**Starting**
**Running**
$+J_{Cc}$
$t{=}4$

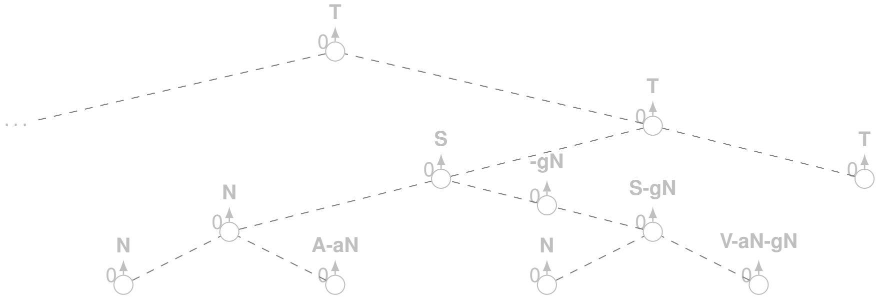
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


A
T
0
B
T
0
T
0
. . .
S
0
N
0
V-aN
0
V-aN-c(V-aN)
0
V-aN
0
V-aN
0
V-aN-c(V-aN)
0
sig
V-aN-c(V-aN)-d(V-aN)
0
V-aN
0
1′
1′
1′
1′
rin
rin
rin
rin
rin
1 2
0
0
1
1
0
cin cin
0
cin cin
1
cin cin
1
0
Every
BeingAThing
Starting
Running
Stopping
−F
t=4.5

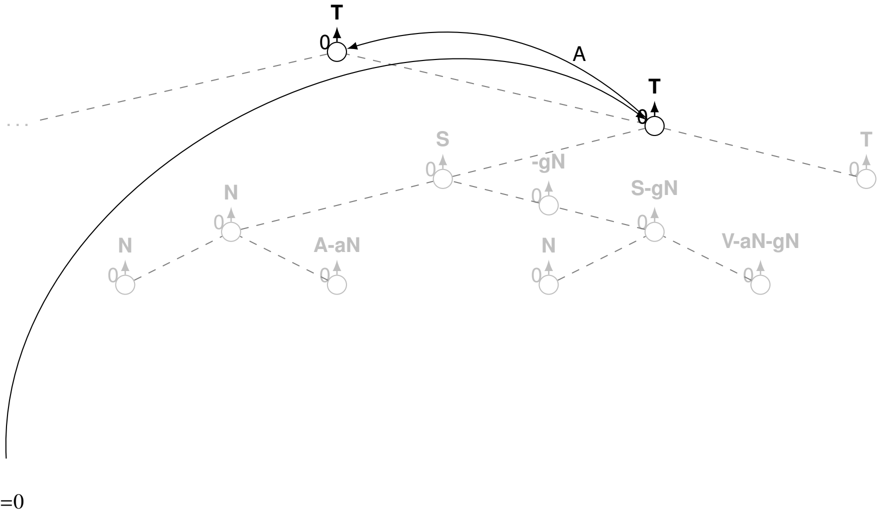
# Decoding conjunctions: ‘*Everything starts, runs & stops.*’


A
T
T
T
S
N
V-aN
V-aN
V-aN-c(V-aN)
V-aN
V-aN-c(V-aN)
V-aN-c(V-aN)-d(V-aN)
V-aN
1′
1′
1′
1′
rin
rin
rin
rin
rin
cin cin
cin cin
cin cin
0
0
1
2
0
1
1
0
1
1
0
Every
BeingAThing
Starting
Running
Stopping
+J_D
t=5

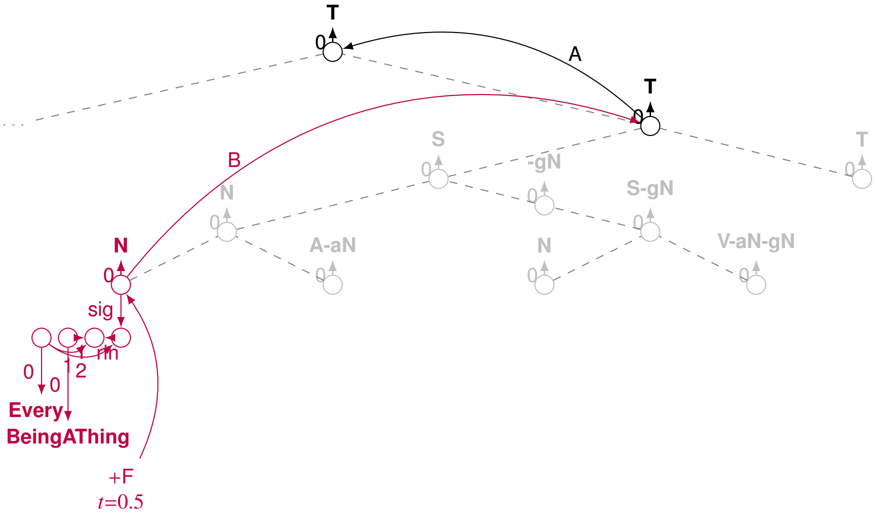
# Decoding w. gap fillers: ‘*Everything here someone likes.*’


T
0
...
T
0
S
0
-gN
0
S-gN
0
T
0
N
0
N
0
A-aN
0
N
0
V-aN-gN
0

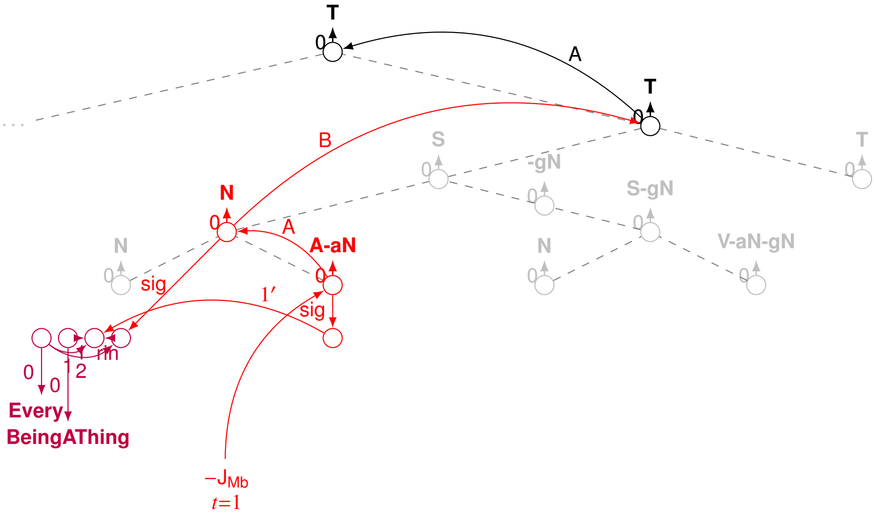
# Decoding w. gap fillers: ‘*Everything here someone likes.*’


T
0
A
T
0
. . .
S
0
-gN
0
T
0
N
0
S-gN
0
N
0
A-aN
0
N
0
V-aN-gN
0
t=0

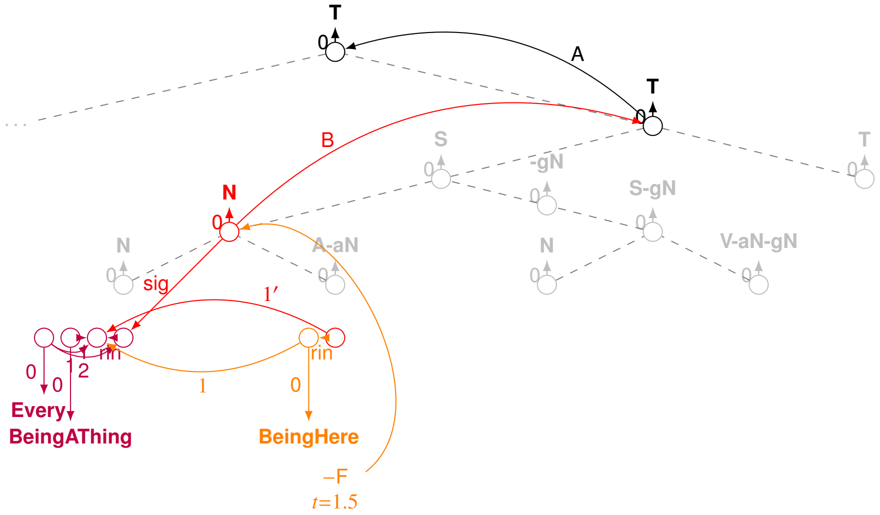
# Decoding w. gap fillers: ‘*Everything here someone likes.*’


T
0
A
T
0
B
S
0
-gN
0
S-gN
0
T
0
N
0
A-aN
0
N
0
V-aN-gN
0
N
0
sig
rin
0
0
1
2
Every
BeingAThing
+F
$t$=0.5
. . .

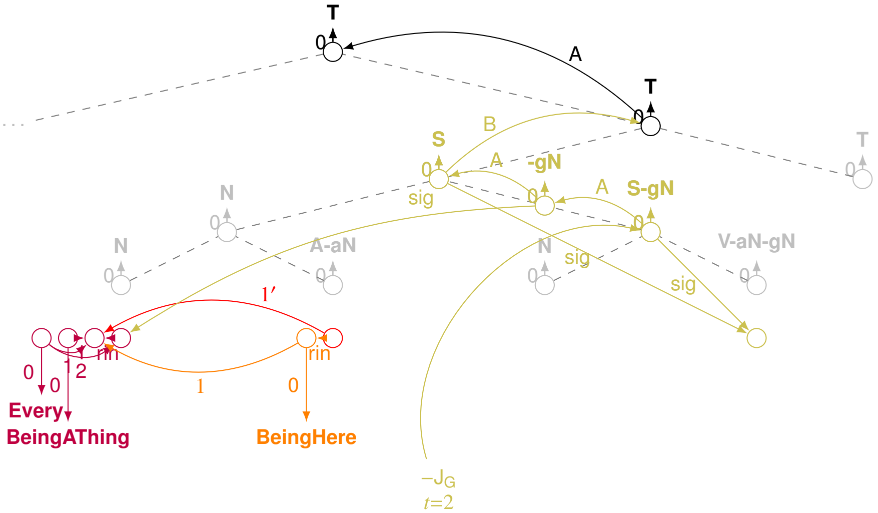
# Decoding w. gap fillers: ‘*Everything here someone likes.*’


T
0
A
T
0
B
S
0
-gN
0
S-gN
0
T
0
N
0
A
A-aN
0
N
0
V-aN-gN
0
N
0
sig
1′
sig
0
rin
1
2
0
0
Every
BeingAThing
−J_Mb
t=1

# Decoding w. gap fillers: ‘*Everything here someone likes.*’

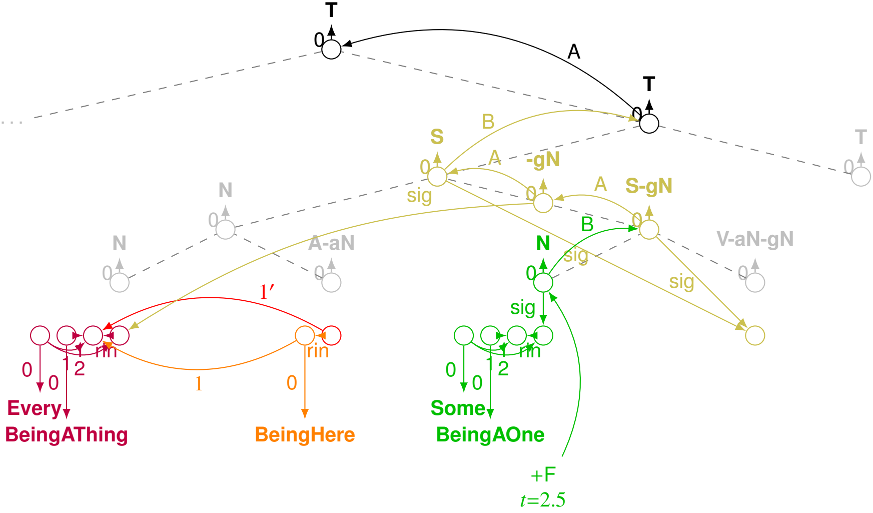

T
0
A
T
0
...
B
S
0
-gN
0
T
0
S-gN
0
N
0
N
0
A-aN
0
N
0
V-aN-gN
0
sig
1′
0
1
2
0
rin
rin
1
0
Every
BeingAThing
BeingHere
−F
t=1.5

# Decoding w. gap fillers: ‘*Everything here someone likes.*’



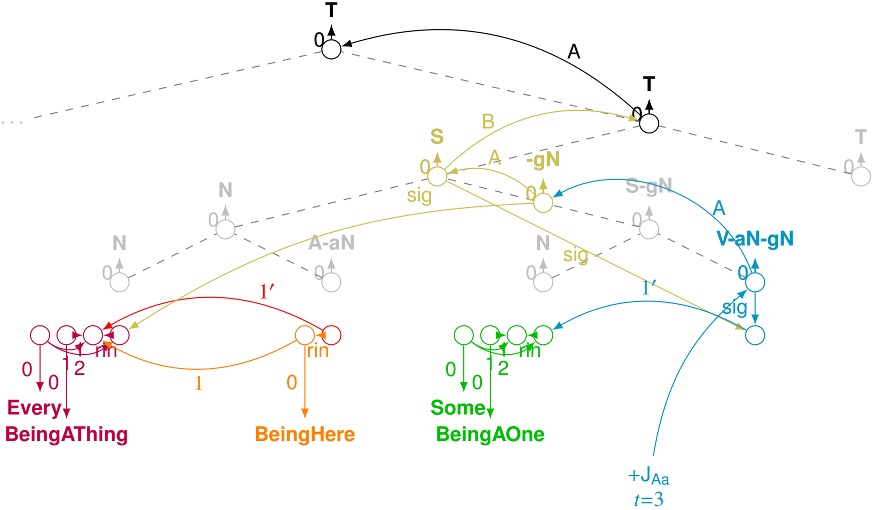
T
0
A
T
0
B
S
0
A
-gN
0
A
S-gN
0
T
0
sig
N
0
A-aN
0
N
0
sig
V-aN-gN
0
sig
N
0
1′
rin
rin
0
0
1
2
1
0
Every
BeingAThing
BeingHere
−J_G
t=2
…

# Decoding w. gap fillers: ‘*Everything here someone likes.*’

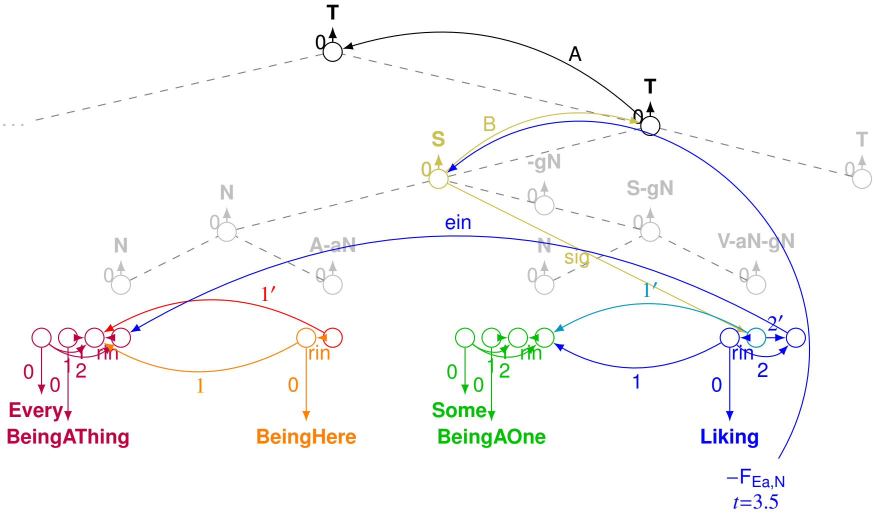


T
0
A
T
0
. . .
B
S
0
A
-gN
0
sig
A
S-gN
0
N
0
T
0
N
0
A-aN
0
B
N
0
sig
V-aN-gN
0
sig
sig
1′
rin
rin
rin
0
0
1 2
1
0
0
0
1 2
Every
BeingAThing
BeingHere
Some
BeingAOne
+F
t=2.5

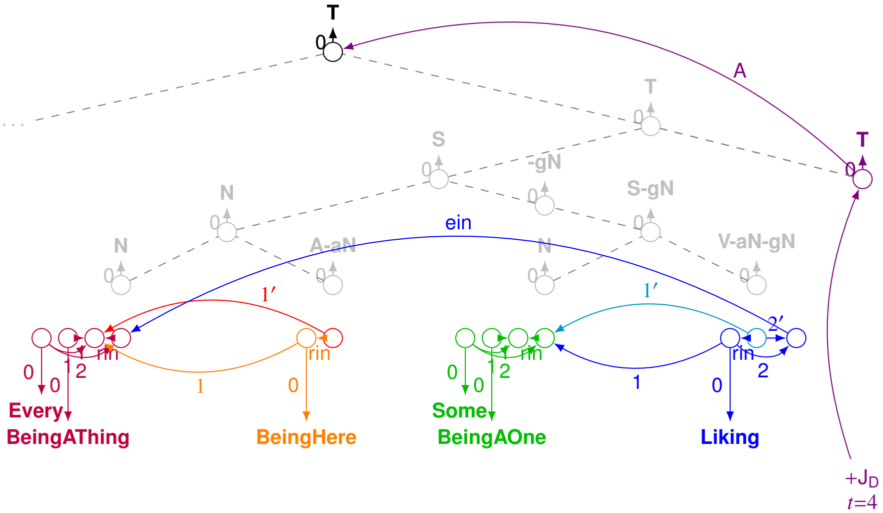
# Decoding w. gap fillers: ‘*Everything here someone likes.*’


T
0
A
T
0
B
S
0
A
-gN
0
sig
T
0
N
0
S-gN
0
A
N
0
A-aN
0
N
0
sig
V-aN-gN
0
1′
1′
sig
rin
1
2
0
0
rin
1
0
Every
BeingAThing
BeingHere
rin
1
2
0
0
Some
BeingAOne
+J_Aa
t=3

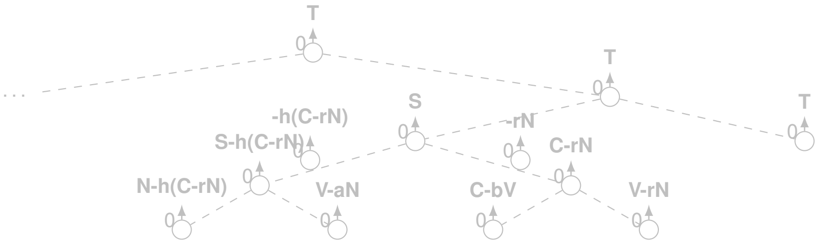
# Decoding w. gap fillers: ‘*Everything here someone likes.*’


T
0
A
T
0
B
S
0
-gN
0
S-gN
0
T
0
N
0
N
0
A-aN
0
N
0
V-aN-gN
0
ein
sig
1′
1′
2′
rin
rin
rin
rin
0
0
1
2
1
0
0
0
1
2
1
0
2
Every
BeingAThing
BeingHere
Some
BeingAOne
Liking
. . .
$-\mathsf{F}_{\mathsf{Ea,N}}$
$t$=3.5

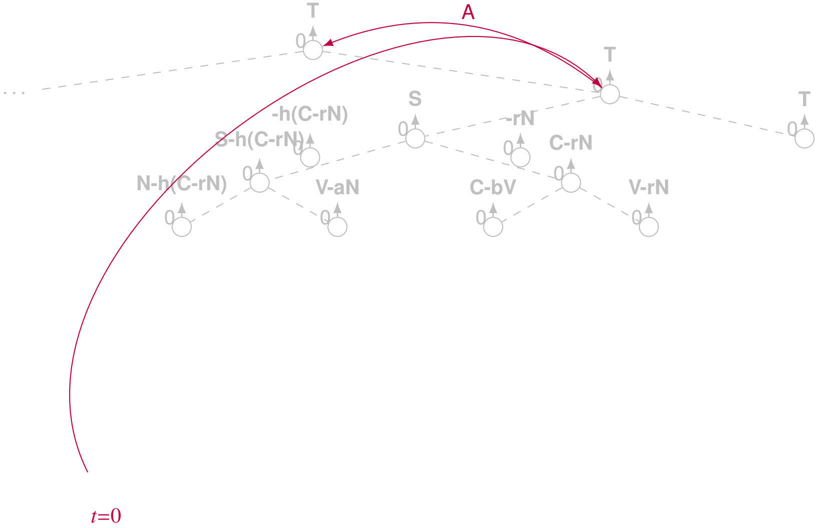
# Decoding w. gap fillers: ‘*Everything here someone likes.*’


T
0
A
T
0
T
0
S
0
-gN
0
S-gN
0
N
0
N
0
A-aN
0
ein
N
0
V-aN-gN
0
1′
1′
2′
rin
rin
rin
rin
0
0
1
2
1
0
0
0
1
2
1
0
2
Every
BeingAThing
BeingHere
Some
BeingAOne
Liking
+J_D
t=4

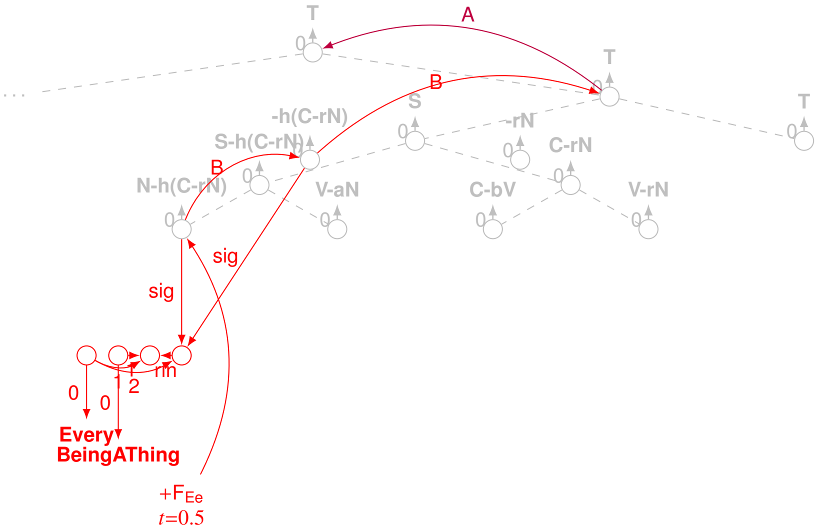
# Decoding w. gap fillers: ‘*Everything stops that starts.*’


T
0
. . .
T
0
S
0
-h(C-rN)
0
-rN
0
T
0
S-h(C-rN)
0
C-rN
0
N-h(C-rN)
0
V-aN
0
C-bV
0
V-rN
0

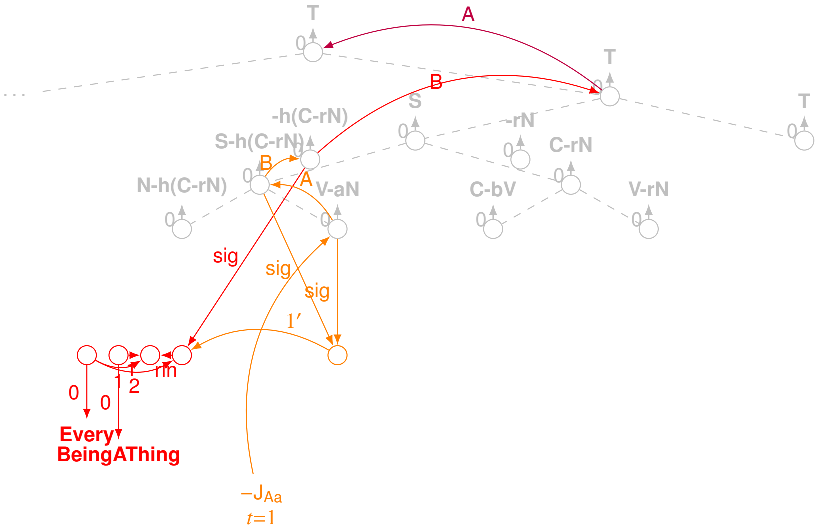
# Decoding w. gap fillers: ‘*Everything stops that starts.*’


A
T
0
T
0
T
0
. . .
S
0
-h(C-rN)
0
-rN
0
S-h(C-rN)
0
C-rN
0
N-h(C-rN)
0
V-aN
0
C-bV
0
V-rN
0
$t$=0

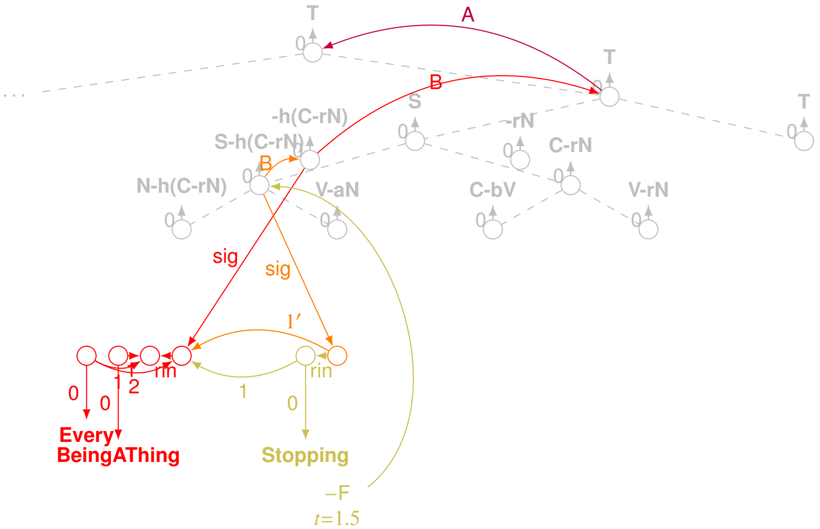
# Decoding w. gap fillers: '*Everything stops that starts.*'


T
A
0
T
B
0
...
S
-h(C-rN)
-rN
T
0
S-h(C-rN)
0
C-rN
0
B
0
0
N-h(C-rN)
V-aN
C-bV
V-rN
0
0
0
0
sig
sig
rin
1
2
0
0
Every
BeingAThing
+F_Ee
t=0.5

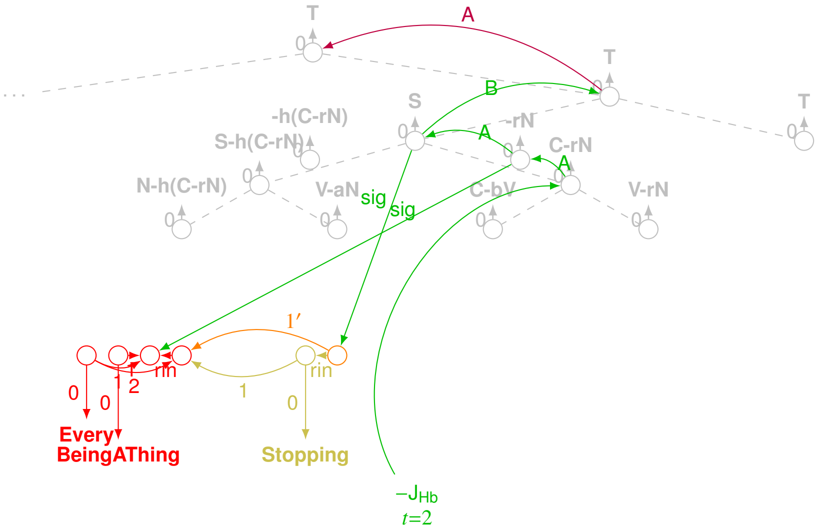
# Decoding w. gap fillers: ‘*Everything stops that starts.*’


A
T
0
T
B
0
S
T
-h(C-rN)
0
-rN
0
S-h(C-rN)
0
C-rN
B
0
0
N-h(C-rN)
A
V-aN
C-bV
V-rN
0
0
0
0
sig
sig
sig
1′
rin
1
2
0
0
Every
BeingAThing
−J_Aa
t=1

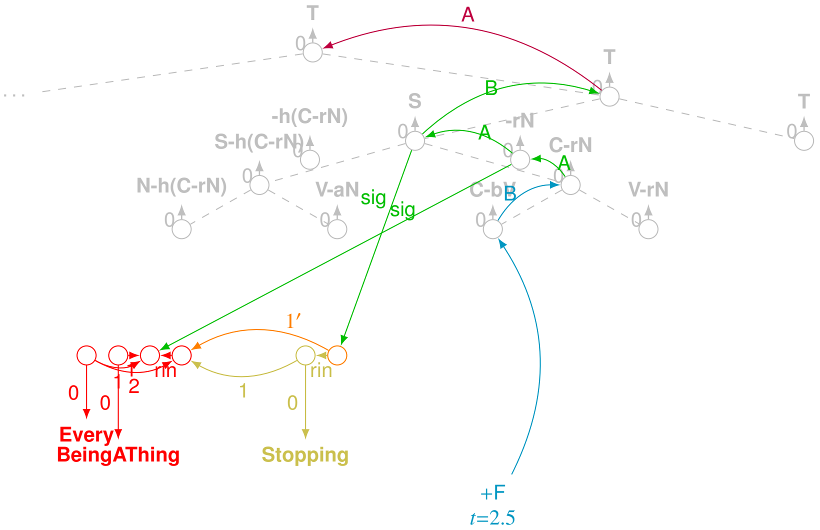
# Decoding w. gap fillers: ‘*Everything stops that starts.*’


T
A
T
B
T
S
-h(C-rN)
-rN
S-h(C-rN)
C-rN
B
N-h(C-rN)
V-aN
C-bV
V-rN
0
sig
sig
1′
rin
rin
1
2
1
0
0
0
Every
BeingAThing
Stopping
−F
$t$=1.5

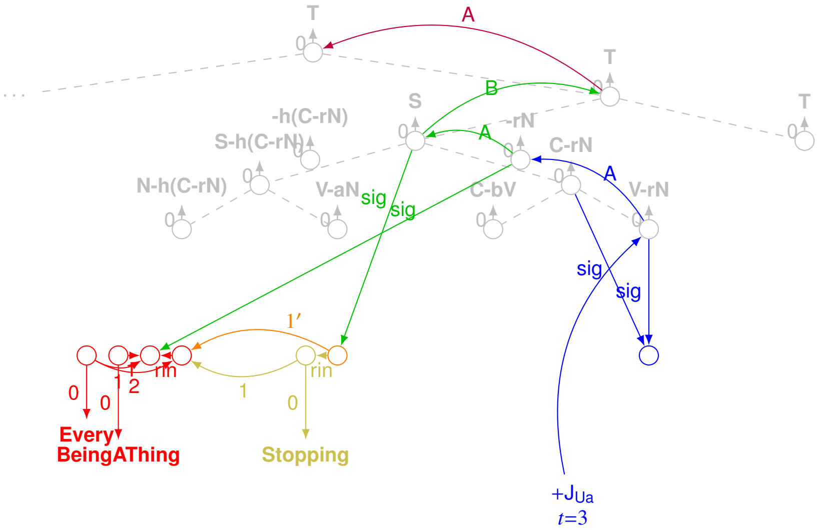
# Decoding w. gap fillers: ‘*Everything stops that starts.*’


A
T
0
T
0
B
. . .
S
0
-h(C-rN)
-rN
0
A
C-rN
S-h(C-rN)
0
A
0
0
N-h(C-rN)
V-aN
sig
sig
C-bV
V-rN
0
0
0
0
1′
rin
rin
1
2
1
0
0
1
0
Every
BeingAThing
Stopping
$-J_{Hb}$
$t{=}2$

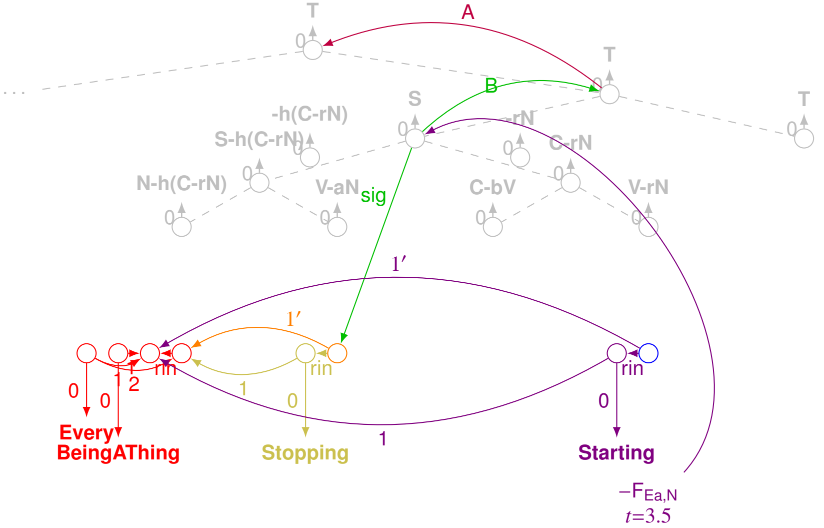
# Decoding w. gap fillers: ‘*Everything stops that starts.*’


A
T
0
T
0
B
S
0
-h(C-rN)
-rN
0
A
C-rN
0
S-h(C-rN)
0
A
0
N-h(C-rN)
0
V-aN
sig
sig
0
C-bV
B
0
V-rN
0
…
1′
rin
rin
1
2
1
0
0
1
0
Every
BeingAThing
Stopping
+F
t=2.5

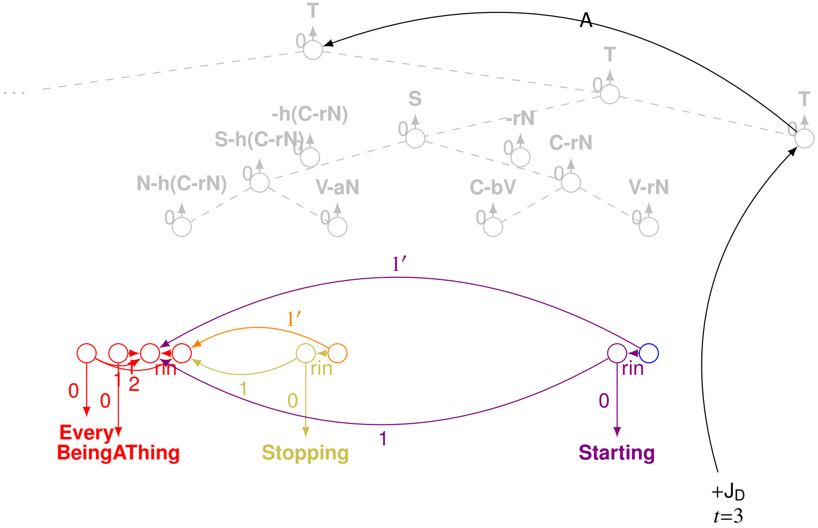
# Decoding w. gap fillers: ‘*Everything stops that starts.*’


A
T
0
T
B
0
S
-h(C-rN)
A
-rN
0
T
0
S-h(C-rN)
0
0
C-rN
0
A
N-h(C-rN)
0
V-aN
sig
sig
C-bV
0
V-rN
0
0
0
0
sig
sig
1′
rin
rin
1
1
2
0
0
1
0
Every
BeingAThing
Stopping
+J$_{Ua}$
$t$=3

# Decoding w. gap fillers: ‘*Everything stops that starts.*’


A
T
0
T
0
B
T
0
S
0
-h(C-rN)
-rN
C-rN
S-h(C-rN)
0
0
0
N-h(C-rN)
0
V-aN
sig
C-bV
V-rN
0
0
0
0
$1'$
$1'$
rin
rin
rin
1
2
1
0
0
1
0
0
1
Every
BeingAThing
Stopping
Starting
$-F_{Ea,N}$
$t$=3.5

# Decoding w. gap fillers: ‘*Everything stops that starts.*’


T
A
0
T
0
T
0
S
0
-h(C-rN)
0
S-h(C-rN)
0
-rN
0
C-rN
0
N-h(C-rN)
0
V-aN
0
C-bV
0
V-rN
0
. . .
1′
1′
rin
rin
rin
0
0
1
2
1
0
1
0
Every
BeingAThing
Stopping
Starting
+J<sub>D</sub>
t=3