1 The kids are not happy with the rain.
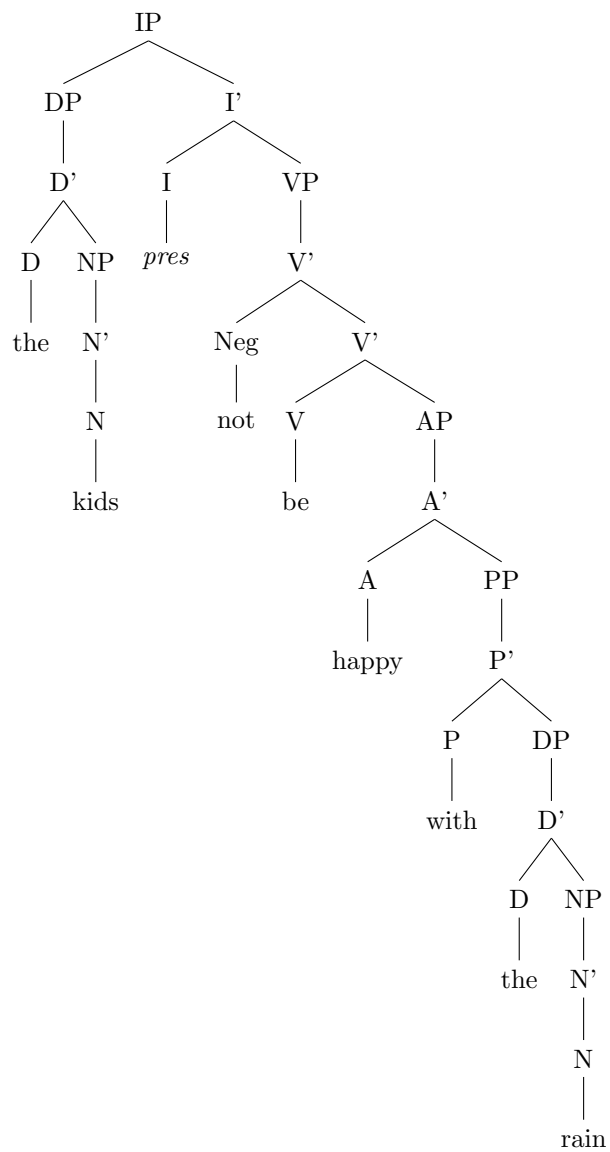
1.1 D-Structure

```
                              IP
                    _____
                   DP               I'
                   |           _____
                   D'          I         VP
                 _____         |          |
                D    NP      pres         V'
                |    |                 _____
               the   N'              Neg       V'
                     |                |      _____
                     N               not    V       AP
                     |                |      |        |
                    kids             be    A'
                                         _____
                                        A       PP
                                        |        |
                                      happy      P'
                                              _____
                                             P       DP
                                             |        |
                                           with       D'
                                                    _____
                                                   D     NP
                                                   |      |
                                                  the     N'
                                                          |
                                                          N
                                                          |
                                                         rain
```

1

1.2 S-Structure

```
                          IP
               _____
              DP                       I'
              |                 _____
              D'               I₀               VP
            _____          _____             |
           D      NP       V₀      I            V'
           |      |        |       |        _____
          the     N'       be    pres      Neg        V'
                  |                          |      _____
                  N                         not    V        AP
                  |                                          |
                 kids                                        A'
                                                     _____
                                                    A            PP
                                                    |            |
                                                  happy          P'
                                                            _____
                                                           P          DP
                                                           |          |
                                                          with        D'
                                                                   _____
                                                                  D        NP
                                                                  |        |
                                                                 the       N'
                                                                           |
                                                                           N
                                                                           |
                                                                          rain
```
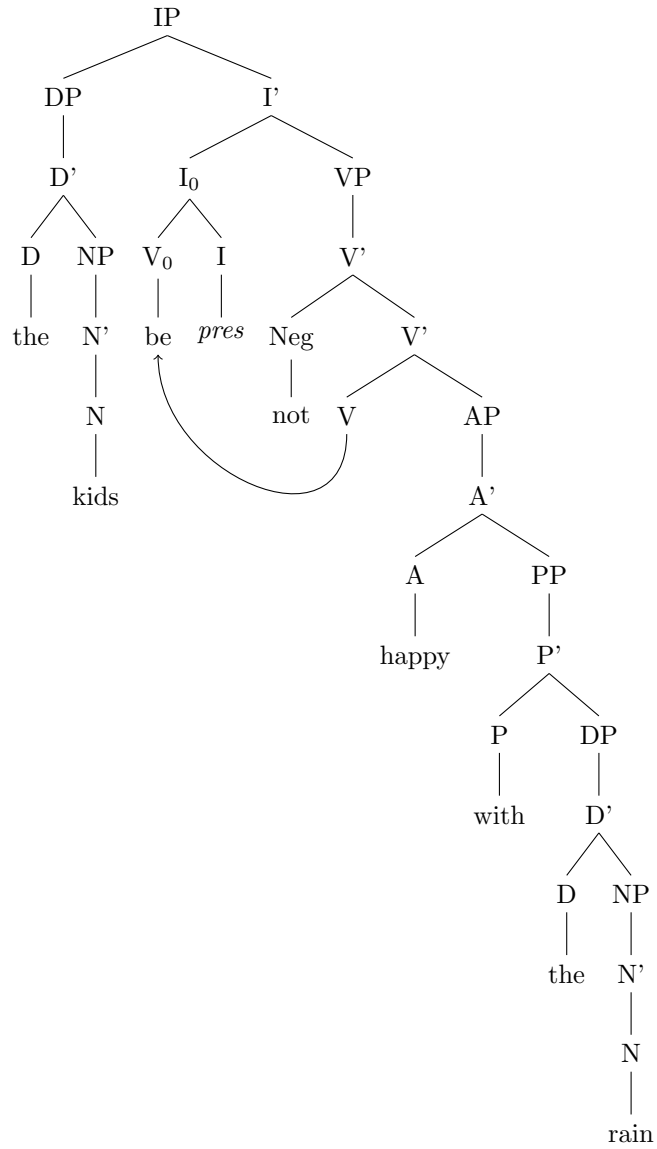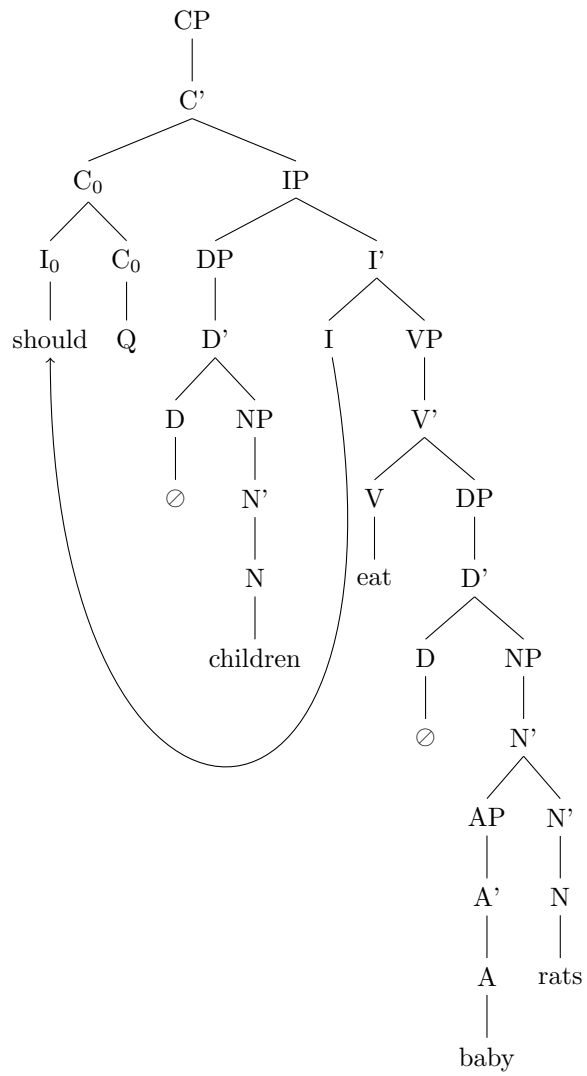
2 Should children eat baby rats?

2.1 D-Structure

```
                        CP
                        |
                        C'
                      /    \
                   C₀        IP
                   |        /  \
                   Q      DP      I'
                          |      /  \
                          D'    I      VP
                        /   \   |      |
                      D     NP  should  V'
                      |     |         /  \
                      ⊘     N'       V      DP
                            |        |      |
                            N        eat    D'
                            |              /  \
                         children        D      NP
                                         |      |
                                         ⊘      N'
                                              /    \
                                            AP      N'
                                            |       |
                                            A'      N
                                            |       |
                                            A      rats
                                            |
                                          baby
```

3

2.2 S-Structure

```
                        CP
                        |
                        C'
                   _____|_____
                  C₀           IP
               ___|___      ___|___
              I₀     C₀    DP      I'
              |      |     |     ___|___
           should    Q    D'    I      VP
                        __|__    |      |
                       D    NP  eat     V'
                       |    |        ___|___
                       ⊘    N'      V      DP
                            |       |      |
                            N      eat     D'
                            |           ___|___
                         children      D    NP
                                       |    |
                                       ⊘    N'
                                         ___|___
                                        AP     N'
                                        |      |
                                        A'     N
                                        |      |
                                        A     rats
                                        |
                                      baby
```

4
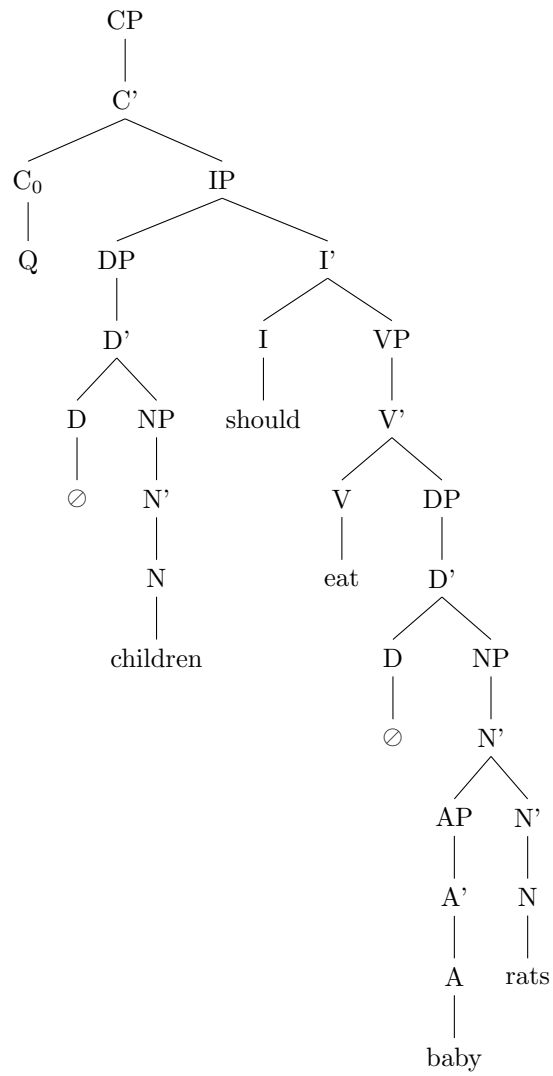
3 The kangaroos have asked whether any wallabies are in the room.

3.1 D-Structure

```
                              IP
                 ┌────────────┴────────────┐
                DP                          I'
                 │                 ┌────────┴────────┐
                D'                 I                 VP
           ┌────┴────┐            pres               │
           D         NP                              V'
           │          │                         ┌────┴────┐
          the         N'                        V         VP
                      │                         │          │
                      N                        have        V'
                      │                              ┌──────┴──────┐
                  kangaroos                          V             CP
                                                     │              │
                                                    ask            C'
                                                           ┌────────┴────────┐
                                                           C                 IP
                                                           │          ┌──────┴──────┐
                                                        whether      DP             I'
                                                                      │        ┌─────┴─────┐
                                                                     D'        I           VP
                                                                 ┌───┴───┐    pres          │
                                                                 D       NP                 V'
                                                                 │        │           ┌─────┴─────┐
                                                                any       N'          V'          PP
                                                                          │           │            │
                                                                          N           V            P'
                                                                          │           │        ┌───┴───┐
                                                                      wallabies       be       P       DP
                                                                                               │        │
                                                                                               in       D'
                                                                                                    ┌───┴───┐
                                                                                                    D       NP
                                                                                                    │        │
                                                                                                   the       N'
                                                                                                             │
                                                                                                             N
                                                                                                             │
                                                                                                            room
```
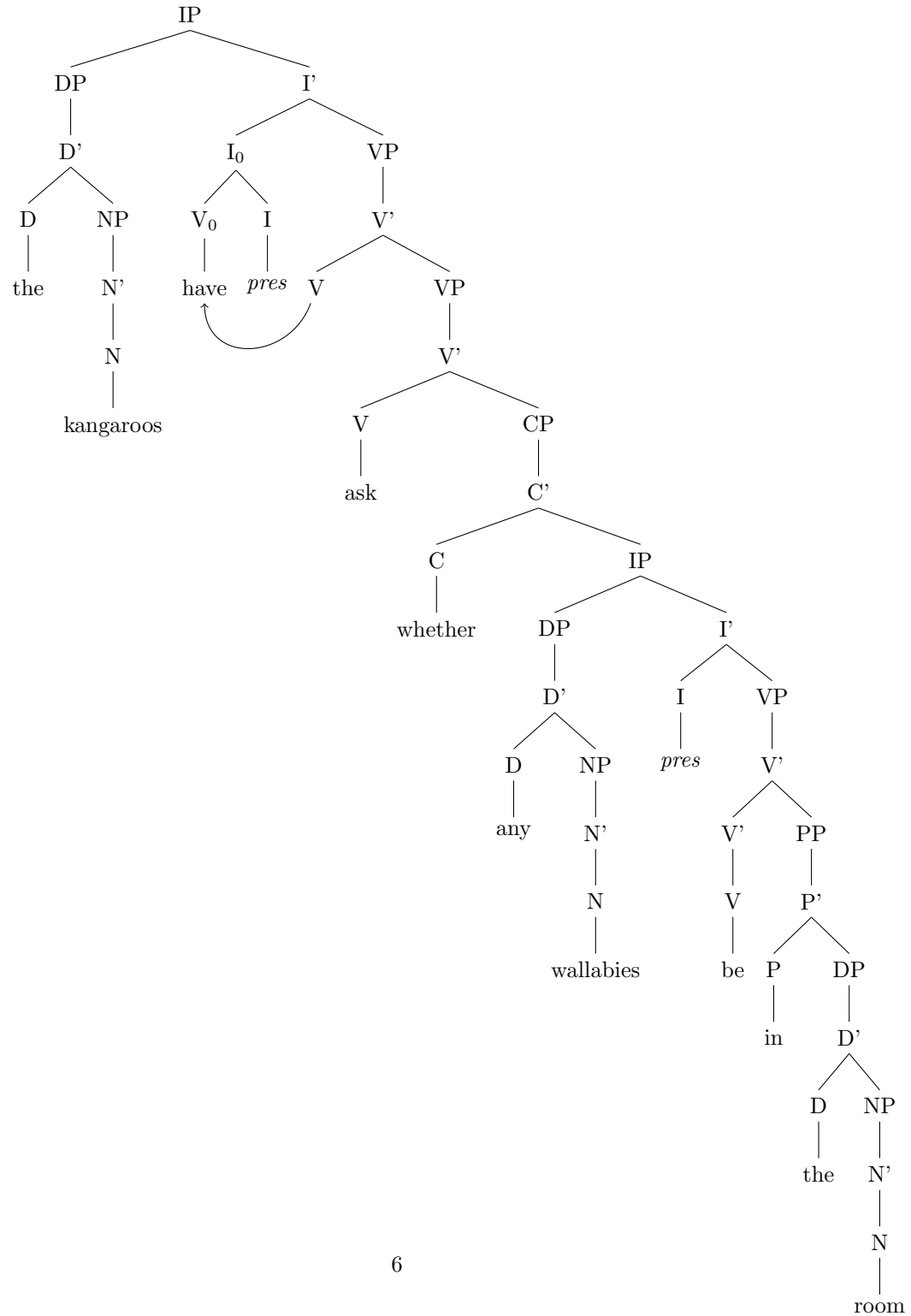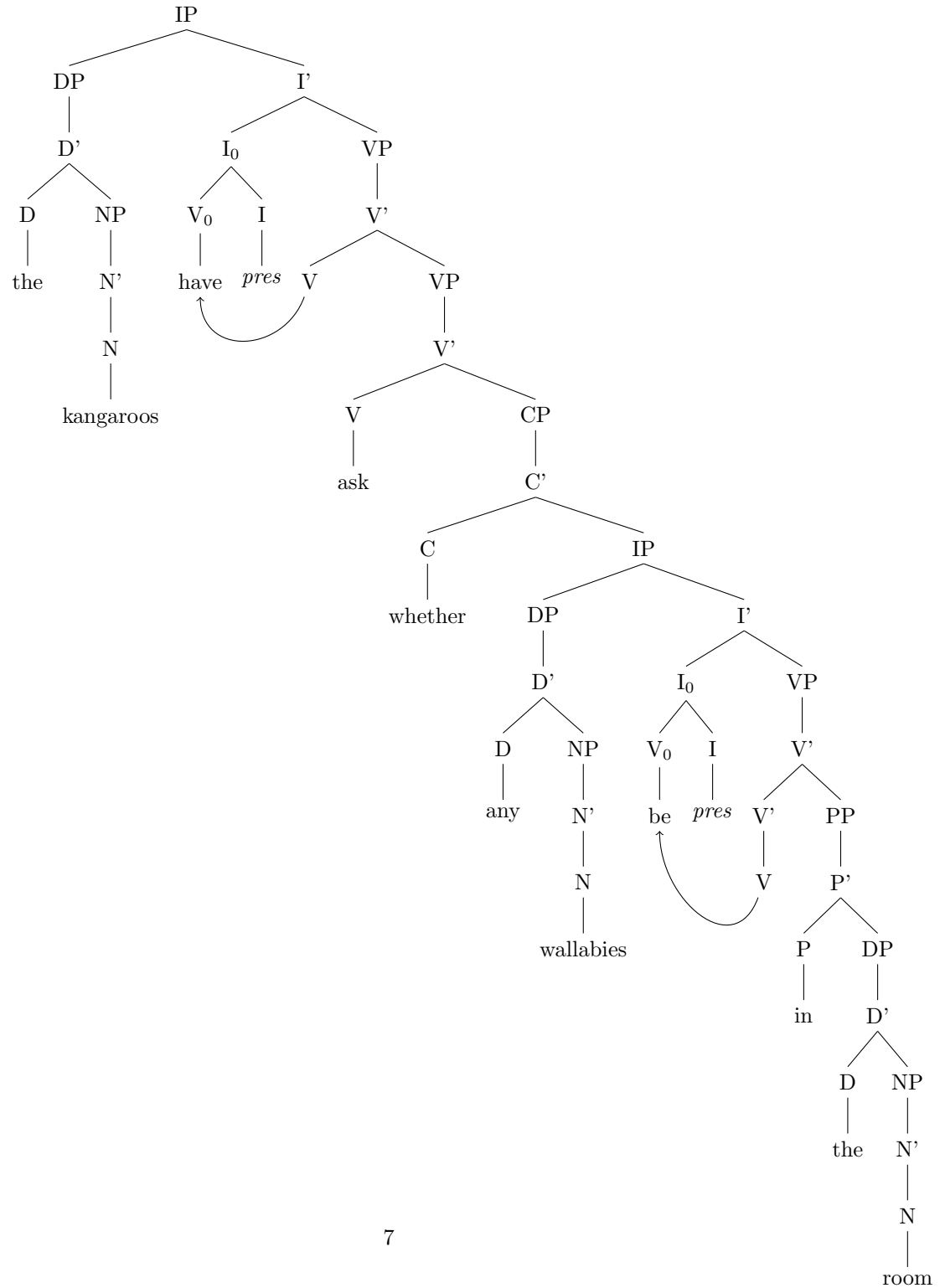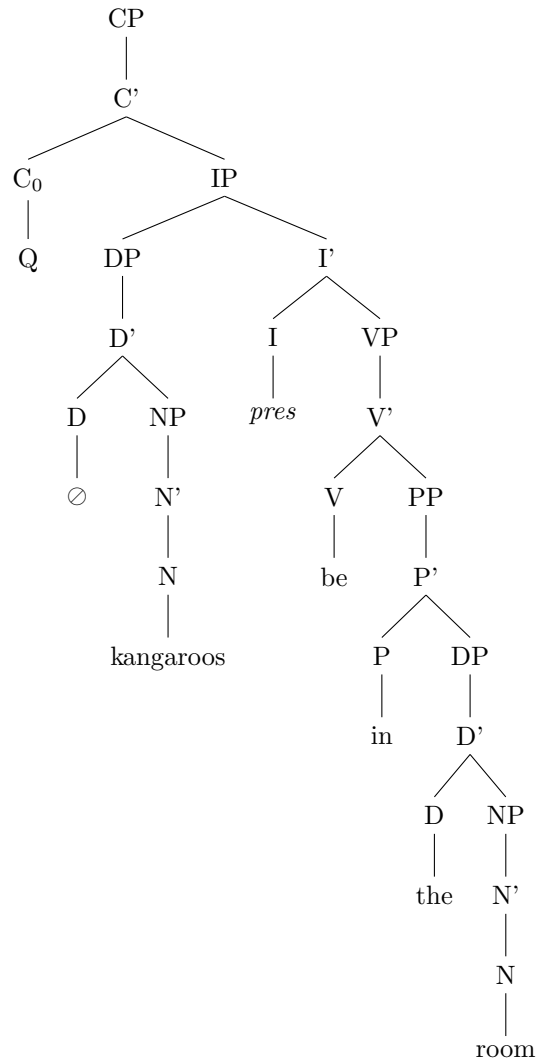
3.2 S-Structure (Step 1)

```
                                IP
                  ┌─────────────┴─────────────┐
                 DP                            I'
                  │              ┌─────────────┴─────────────┐
                 D'             I₀                           VP
            ┌─────┴─────┐   ┌────┴────┐                      │
           D           NP  V₀        I                      V'
           │            │   │         │            ┌─────────┴─────────┐
          the          N'  have     pres          V                   VP
                        │                                              │
                        N                                             V'
                        │                                    ┌─────────┴─────────┐
                    kangaroos                               V                   CP
                                                            │                    │
                                                           ask                  C'
                                                                     ┌───────────┴───────────┐
                                                                    C                        IP
                                                                    │            ┌────────────┴────────────┐
                                                                 whether        DP                         I'
                                                                                 │             ┌───────────┴───────────┐
                                                                                D'            I                        VP
                                                                          ┌──────┴──────┐     │                        │
                                                                         D            NP    pres                      V'
                                                                         │             │             ┌────────────────┴────────────────┐
                                                                        any           N'            V'                               PP
                                                                                       │             │                                │
                                                                                       N            V                               P'
                                                                                       │             │                    ┌───────────┴───────────┐
                                                                                   wallabies        be                    P                       DP
                                                                                                                          │                        │
                                                                                                                         in                       D'
                                                                                                                                           ┌───────┴───────┐
                                                                                                                                          D               NP
                                                                                                                                          │                │
                                                                                                                                         the              N'
                                                                                                                                                           │
                                                                                                                                                           N
                                                                                                                                                           │
                                                                                                                                                          room
```
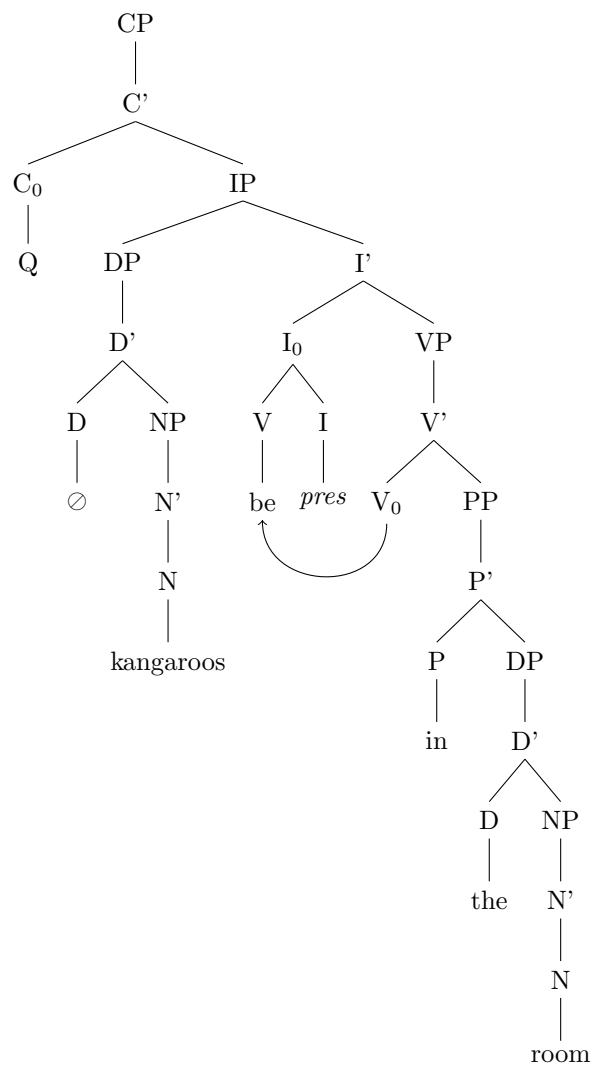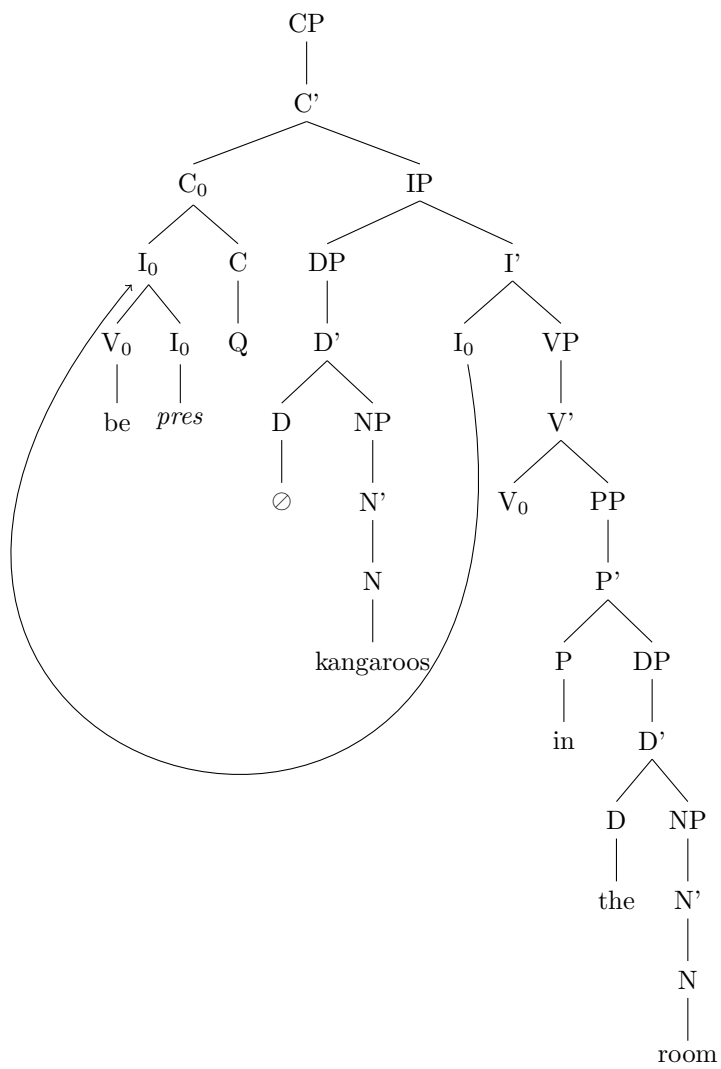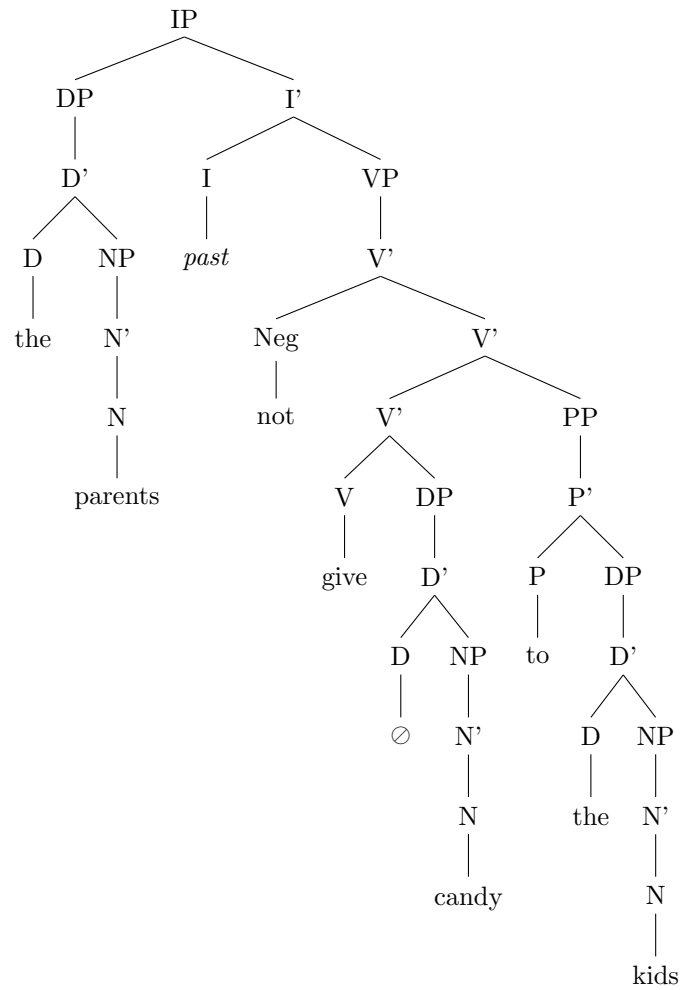
3.3   S-Structure (Step 2)

IP
- DP
  - D'
    - D
      - the
    - NP
      - N'
        - N
          - kangaroos
- I'
  - I_0
    - V_0
      - have
    - I
      - *pres*
  - VP
    - V'
      - V (have, moved)
      - VP
        - V'
          - V
            - ask
          - CP
            - C'
              - C
                - whether
              - IP
                - DP
                  - D'
                    - D
                      - any
                    - NP
                      - N'
                        - N
                          - wallabies
                - I'
                  - I_0
                    - V_0
                      - be
                    - I
                      - *pres*
                  - VP
                    - V'
                      - V'
                        - V (be, moved)
                      - PP
                        - P'
                          - P
                            - in
                          - DP
                            - D'
                              - D
                                - the
                              - NP
                                - N'
                                  - N
                                    - room

4   Are kangaroos in the room?

4.1   D-Structure

```
                          CP
                          |
                          C'
                  _____|_____
                 C₀                IP
                 |         _____|_____
                 Q        DP                  I'
                          |            _____|_____
                          D'          I              VP
                      ____|____        |              |
                     D        NP      pres            V'
                     |         |              _____|_____
                     ⊘        N'            V               PP
                               |             |               |
                               N            be              P'
                               |                      _____|_____
                           kangaroos                 P              DP
                                                     |               |
                                                    in              D'
                                                              _____|_____
                                                             D            NP
                                                             |             |
                                                            the           N'
                                                                           |
                                                                           N
                                                                           |
                                                                          room
```

4.2   S-Structure (Step 1)

```
                          CP
                          |
                          C'
                 _____|_____
                C₀                  IP
                |           _____|_____
                Q          DP                  I'
                           |            _____|_____
                           D'          I₀             VP
                       ____|____     ___|___           |
                      D        NP   V     I            V'
                      |        |    |     |         ___|___
                      ⊘        N'   be  pres       V₀     PP
                               |                          |
                               N                          P'
                               |                      ____|____
                           kangaroos                 P        DP
                                                     |        |
                                                     in       D'
                                                          ____|____
                                                         D        NP
                                                         |        |
                                                        the       N'
                                                                  |
                                                                  N
                                                                  |
                                                                 room
```

4.3   S-Structure (Step 2)

CP
C'
C_0 IP
I_0 C   DP   I'
V_0 I_0 Q   D' I_0 VP
be   *pres*   D   NP   V'
⊘   N' V_0 PP
N   P'
kangaroos   P   DP
in   D'
D   NP
the   N'
N
room

5 *The parents gave not candy to the kids

5.1 D-Structure

```
                              IP
                 ┌────────────┴────────────┐
                DP                         I'
                 │              ┌──────────┴──────────┐
                D'              I                    VP
             ┌───┴───┐         │                     │
             D      NP       past                    V'
             │       │               ┌───────────────┴───────────┐
            the     N'              Neg                          V'
                     │               │              ┌────────────┴────────┐
                     N              not             V'                    PP
                     │                       ┌──────┴──────┐               │
                  parents                    V            DP              P'
                                             │             │         ┌─────┴─────┐
                                           give           D'         P          DP
                                                      ┌────┴────┐     │           │
                                                      D        NP    to          D'
                                                      │         │          ┌──────┴──────┐
                                                      ⊘        N'          D            NP
                                                                │          │             │
                                                                N         the           N'
                                                                │                        │
                                                             candy                       N
                                                                                         │
                                                                                        kids
```

5.2   S-Structure

```
                                    IP
                        ┌───────────┴───────────┐
                       DP                        I'
                        │              ┌──────────┴──────────┐
                       D'             I₀                     VP
                  ┌─────┴─────┐    ┌───┴───┐                  │
                  D          NP   V₀      I                  V'
                  │           │    │       │        ┌─────────┴─────────┐
                 the         N'  give    past      Neg                  V'
                              │                     │          ┌─────────┴─────────┐
                              N                    not         V'                  PP
                              │                          ┌──────┴──────┐            │
                           parents                       V            DP           P'
                                                                       │       ┌────┴────┐
                                                                      D'       P        DP
                                                                 ┌─────┴─────┐  │         │
                                                                 D          NP to        D'
                                                                 │           │       ┌────┴────┐
                                                                 ⊘          N'       D       NP
                                                                             │        │        │
                                                                             N       the      N'
                                                                             │                 │
                                                                           candy               N
                                                                                                │
                                                                                               kids
```
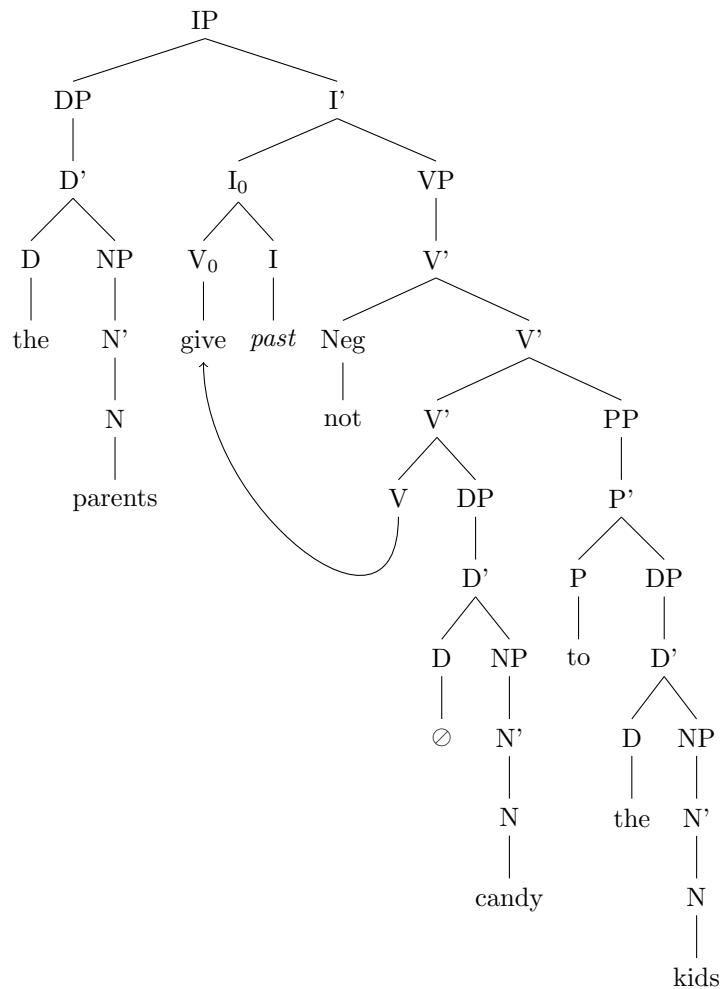
This S-Structure is ungrammatical because "give" is not an auxiliary verb. Only
auxiliary verbs can move into an [I] in this manner.
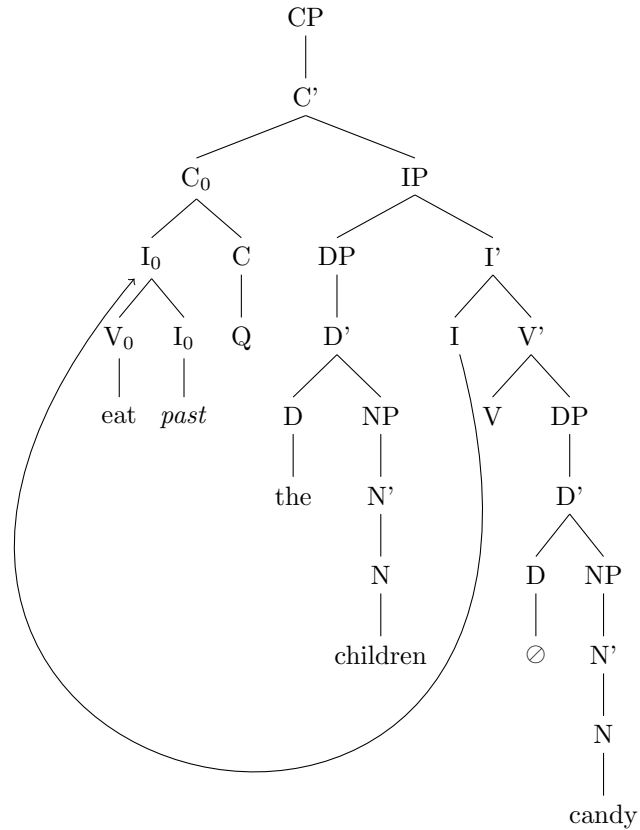
6   *Ate the children candy?

6.1   D-Structure

```
                          CP
                          |
                          C'
                 _____|_____
                C₀                  IP
                |           _____|_____
                Q          DP               I'
                           |            _____|_____
                           D'           I          V'
                       ____|____        |       ___|___
                      D        NP      past     V      DP
                      |         |       |       |       |
                     the       N'      eat     V       D'
                               |              eat   ___|___
                               N                   D      NP
                               |                   |       |
                            children               ⊘      N'
                                                           |
                                                           N
                                                           |
                                                         candy
```

6.2 S-Structure (Step 1)

```
                              CP
                              |
                              C'
                      _____|_____
                     C₀                IP
                     |          _____|_____
                     Q         DP                I'
                               |          _____|_____
                               D'        I₀              V'
                          _____|_____   __|__        ____|____
                         D         NP  V₀   I       V         DP
                         |         |   |    |       |         |
                        the        N'  eat  past              D'
                                   |                      ____|____
                                   N                     D        NP
                                   |                     |        |
                                children                 ⊘        N'
                                                                  |
                                                                  N
                                                                  |
                                                                candy
```

6.3   S-Structure (Step 2)

CP
|
C'
├── C₀
│   ├── I₀
│   │   ├── V₀ — eat
│   │   └── I₀ — *past*
│   └── C
│   └── Q
└── IP
    ├── DP
    │   └── D'
    │   ├── D — the
    │   └── NP
    │   └── N'
    │   └── N — children
    └── I'
        ├── I
        └── V'
            ├── V
            └── DP
                └── D'
                    ├── D — ⊘
                    └── NP
                        └── N'
                            └── N — candy
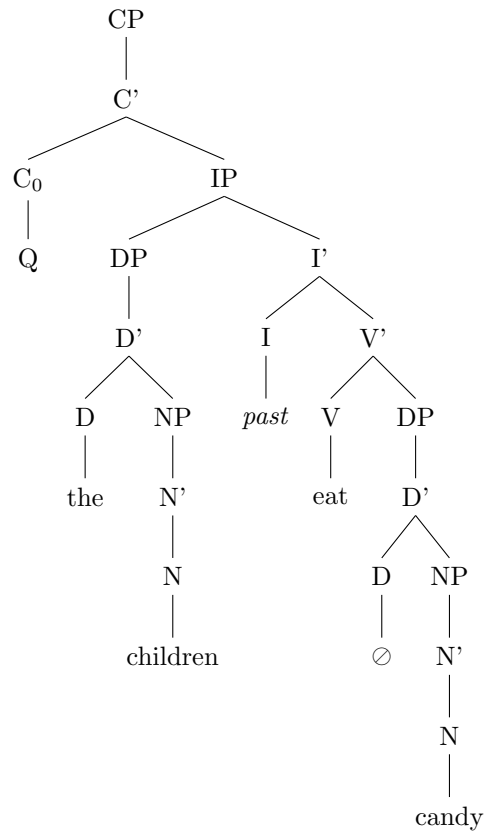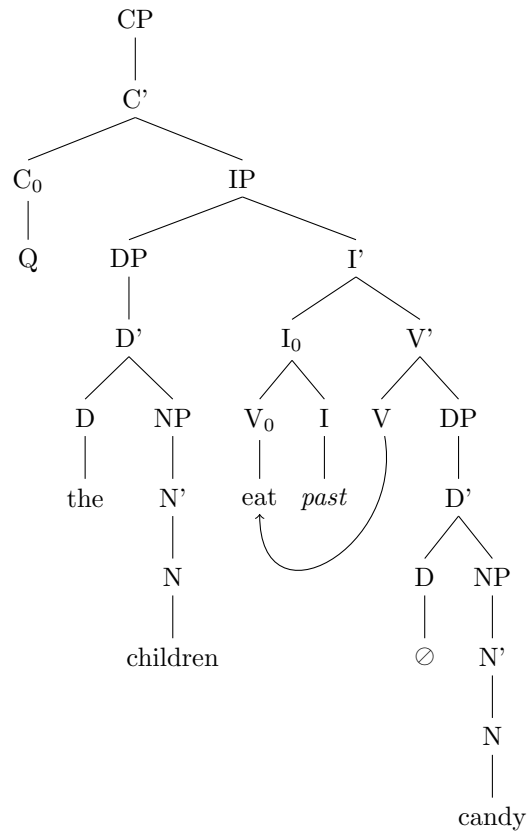
This is ungrammatical for the same reason as the last time. "Eat" is not an auxiliary verb. Therefore it cannot move into the [I], meaning that we will not have an [I₀] to move under the [C₀]. The way to "fix" this sentence is to add the auxiliary verb "do", as in "Did the children eat candy?" because "do" is an auxiliary verb and can move under the [I], which can then move under the [C₀].