1 Definition of the Decoding Problem (Part 1)

1.1 Question (time: 9:12, slide: 4)

Consider the sentence "wir mussen auch diese kritik ernst nehmen" and the phrasal lexicon

- (wir mussen , we must)
- (wir mussen auch, we must also)
- (ernst, seriously)
- (diese kritik, this criticism)

Which of the following phrases is in $\mathcal{P}$?

(a) (1, 2, we must)

(b) (1, 1, we)

(c) (4, 5, this criticism)

(d) (6, 6, seriously)

(e) (1, 2, we must also)

(f) (4, 6, this criticism seriously)

2 Definition of the Decoding Problem (Part 2)

2.1 Question (time: 13:00, slide: 7)

Consider the source sentence "wir mussen auch diese kritik ernst nehmen" If we have distortion limit $d = 4$, which of the following derivations are valid?

(a) y = (1, 3, we must also), (7, 7, take), (4, 5, this criticism), (6, 6, seriously)

(b) y = (6, 6, seriously), (1, 3, we must also), (7, 7, take), (4, 5, this criticism)

(c) y = (1, 3, we must also), (4, 5, this criticism), (7, 7, take), (6, 6, seriously)

(d) y = (1, 3, we must also), (4, 5, this criticism), (6, 6, seriously), (7, 7, take)

3 The Decoding Algorithm (Part 2)

3.1 Question (time: 3:03, slide: 13)

Consider the source sentence "wir mussen auch diese kritik ernst nehmen" with the distortion limit $d = 4$.

Say we are currently at state q = (also, seriously, 0110010, 6, 0.1). Assuming all of the following phrases are in $\mathcal{P}$, which are also in $ph(q)$?

(a) (1, 2, we must)

(b) (7, 7, take)

(c) (4, 5, this criticism)

(d) (6, 6, seriously)

(e) (1, 1, we)

(f) (4, 4, this)

A Answers

- (a) (c) (d)

  The incorrect phrases either are not in the phrasal lexicon, combine multiple phrase pairs, or are aligned to the incorrect source sentence indices.

- (a) (c) (d)

  The incorrect derivations either have $|t(p_k) + 1s(p_{k+1})| > 4$ or $|1s(p_1)| > 4$ which violates the distortion limit.

- (b) (c) (f)

  This incorrect phrases either violate the distortion limit d or translate source words multiple times.