



# A note on lexical parameters in the meaning of causatives and deontic modals

Converging on Causal Ontology Analyses (COCOA), CNRS/Paris 8

Mitya Privoznov

(Göttingen University)

2025.11.07



## 1 Introduction

- Causatives of different strength
- Lexical meaning parameters

## 2 Modal flavour

- Causative vs. deontic
- Root modals
- Summary

## 3 Quantificational force

- Relative force
- Absolute force
- Summary

## 4 Anchor situation

- Agentivity (and stativity)
- Positive and negative situations
- Summary

## 5 Towards a theory

- The main idea
- Accessibility relations
- Anchor situation

## 6 Conclusion



- Let's start with the following minimal pair:



■ Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].



- Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].

- What is the difference in meaning between *let* and *make*?



- Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].

- What is the difference in meaning between *let* and *make*?

- Different inferences:



- Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].

- What is the difference in meaning between *let* and *make*?

- Different inferences:

- (1a)  $\rightsquigarrow$  the weather was nice; we wanted to sit in the gazebo...



- Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].

- What is the difference in meaning between *let* and *make*?

- Different inferences:

(1a)  $\rightsquigarrow$  the weather was nice; we wanted to sit in the gazebo...

(1b)  $\rightsquigarrow$  the weather was rainy; we didn't want to sit in the gazebo...



- Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].

- In this talk: a different route.



- Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].

- In this talk: a different route.

- The inferences (the weather, our desires) are cancellable implicatures.



- Let's start with the following minimal pair:

- (1) a. The weather situation **let** [us sit in the gazebo].  
 b. The weather situation **made** [us sit in the gazebo].

- In this talk: a different route.

- The inferences (the weather, our desires) are cancellable implicatures.

- All else being equal**, truth-conditionally *make* is strictly stronger than *let*.



## ■ One piece of evidence:



## ■ One piece of evidence:

- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].



- One piece of evidence:

- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

- We can account for it, if we assume that  $X$  *make*  $Y$  is strictly stronger than  $X$  *let*  $Y$ .



- One piece of evidence:

- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

- We can account for it, if we assume that  $X$  *make*  $Y$  is strictly stronger than  $X$  *let*  $Y$ .
- This is not easy to do within the existing theories of causatives.



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Starting with Lewis (1973); Dowty (1979) and specifically Davidson (1967a,b, 1980); Parsons (1990); Kratzer (2021).



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Starting with Lewis (1973); Dowty (1979) and specifically Davidson (1967a,b, 1980); Parsons (1990); Kratzer (2021).
- See Lyutikova et al. (2006); Harley (2008); Ramchand (2008); Tatevosov (2008); Lyutikova and Tatevosov (2012, 2014, 2018); Nadathur (2019, 2020, 2024) etc.



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Starting with Lewis (1973); Dowty (1979) and specifically Davidson (1967a,b, 1980); Parsons (1990); Kratzer (2021).
- See Lyutikova et al. (2006); Harley (2008); Ramchand (2008); Tatevosov (2008); Lyutikova and Tatevosov (2012, 2014, 2018); Nadathur (2019, 2020, 2024) etc.
- The simplified general idea ( $s_1, s_2$  – eventualities/situations):



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Starting with Lewis (1973); Dowty (1979) and specifically Davidson (1967a,b, 1980); Parsons (1990); Kratzer (2021).
  - See Lyutikova et al. (2006); Harley (2008); Ramchand (2008); Tatevosov (2008); Lyutikova and Tatevosov (2012, 2014, 2018); Nadathur (2019, 2020, 2024) etc.
  - The simplified general idea ( $s_1, s_2$  – eventualities/situations):
- (3)  $[[ \dots \text{CAUS} [\text{XP}] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{cause}(s_2)(s_1) \dots$



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Starting with Lewis (1973); Dowty (1979) and specifically Davidson (1967a,b, 1980); Parsons (1990); Kratzer (2021).
- See Lyutikova et al. (2006); Harley (2008); Ramchand (2008); Tatevosov (2008); Lyutikova and Tatevosov (2012, 2014, 2018); Nadathur (2019, 2020, 2024) etc.
- The simplified general idea ( $s_1, s_2$  – eventualities/situations):

(3)  $[[ \dots \text{CAUS} [\text{XP}] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{cause}(s_2)(s_1) \dots$

- **cause** is a  $\langle s, \langle s, t \rangle \rangle$  relation defined in modal, usually contrafactual terms (Lewis, 1973; Dowty, 1979).



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Starting with Lewis (1973); Dowty (1979) and specifically Davidson (1967a,b, 1980); Parsons (1990); Kratzer (2021).
- See Lyutikova et al. (2006); Harley (2008); Ramchand (2008); Tatevosov (2008); Lyutikova and Tatevosov (2012, 2014, 2018); Nadathur (2019, 2020, 2024) etc.
- The simplified general idea ( $s_1, s_2$  – eventualities/situations):

(3)  $[[ \dots \text{CAUS} [\text{XP}] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{cause}(s_2)(s_1) \dots$

- cause is a  $\langle s, \langle s, t \rangle \rangle$  relation defined in modal, usually contrafactual terms (Lewis, 1973; Dowty, 1979).
- cause can also be split into two modal statements, one assertion and one in presupposition (Nadathur, 2019, 2020, 2024).



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Two potential ways of distinguishing between different causatives.



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Two potential ways of distinguishing between different causatives.
- Some property of  $s_1$ :



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Two potential ways of distinguishing between different causatives.
- Some property of  $s_1$ :

- (4) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{LET}(s_1) \dots \text{cause}(s_2)(s_1) \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{MAKE}(s_1) \dots \text{cause}(s_2)(s_1) \dots$

where  $\text{MAKE} \subseteq \text{LET}$



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Two potential ways of distinguishing between different causatives.
- Some property of  $s_1$ :

- (4) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{LET}(s_1) \dots \text{cause}(s_2)(s_1) \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{MAKE}(s_1) \dots \text{cause}(s_2)(s_1) \dots$

where  $\text{MAKE} \subseteq \text{LET}$

- Some property of cause:

- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 1 Relational theories

- Two potential ways of distinguishing between different causatives.

- Some property of  $s_1$ :


- (4) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{LET}(s_1) \dots \text{cause}(s_2)(s_1) \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{MAKE}(s_1) \dots \text{cause}(s_2)(s_1) \dots$

where  $\text{MAKE} \subseteq \text{LET}$

- Some property of cause:

- (5) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{cause}_{\text{LET}}(s_2)(s_1) \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots \text{cause}_{\text{MAKE}}(s_2)(s_1) \dots$

where  $\text{cause}_{\text{MAKE}} \subseteq \text{cause}_{\text{LET}}$



UNIVERSITÄT  
GÖTTINGEN



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2

Force based theories



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- See Talmy (2000); Copley and Wolff (2014); Copley and Harley (2015); Copley et al. (2015); Copley (2018); Raffy (2021) etc.



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- See Talmy (2000); Copley and Wolff (2014); Copley and Harley (2015); Copley et al. (2015); Copley (2018); Raffy (2021) etc.
- The simplified general idea ( $s_1, s_2$  – eventualities/situations):



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- See Talmy (2000); Copley and Wolff (2014); Copley and Harley (2015); Copley et al. (2015); Copley (2018); Raffy (2021) etc.
  - The simplified general idea ( $s_1, s_2$  – eventualities/situations):
- (6)  $[[ \dots \text{CAUS} [\text{XP}] \dots ] ]^{w,g} = \dots \exists s_1: \dots f_{\text{cause}}(s_1) = s_2 \dots$



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- See Talmy (2000); Copley and Wolff (2014); Copley and Harley (2015); Copley et al. (2015); Copley (2018); Raffy (2021) etc.
  - The simplified general idea ( $s_1, s_2$  – eventualities/situations):
- (6)  $[[ \dots \text{CAUS} [\text{XP}] \dots ] ]^{w,g} = \dots \exists s_1: \dots f_{\text{cause}}(s_1) = s_2 \dots$
- $f_{\text{cause}}$  is a  $\langle s, s \rangle$  a force function (Talmy, 2000; Copley and Harley, 2015).



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- Two potential ways of distinguishing between different causatives.



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- Two potential ways of distinguishing between different causatives.
- Some property of  $s_1$ :



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- Two potential ways of distinguishing between different causatives.
- Some property of  $s_1$ :

- (7) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \text{LET}(s_1) \dots f_{\text{cause}}(s_1) = s_2 \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \text{MAKE}(s_1) \dots f_{\text{cause}}(s_1) = s_2 \dots$

where  $\text{MAKE} \subseteq \text{LET}$

- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- Two potential ways of distinguishing between different causatives.
- Some property of  $s_1$ :

- (7) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \text{LET}(s_1) \dots f_{\text{cause}(s_1)} = s_2 \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \text{MAKE}(s_1) \dots f_{\text{cause}(s_1)} = s_2 \dots$

where  $\text{MAKE} \subseteq \text{LET}$

- Some property of the force:

- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

## 2 Force based theories

- Two potential ways of distinguishing between different causatives.
- Some property of  $s_1$ :

- (7) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \text{LET}(s_1) \dots f_{\text{cause}}(s_1) = s_2 \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \text{MAKE}(s_1) \dots f_{\text{cause}}(s_1) = s_2 \dots$

where  $\text{MAKE} \subseteq \text{LET}$

- Some property of the force:

- (8) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots f_{\text{LET}}(s_1) = s_2 \dots$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1, s_2: \dots f_{\text{MAKE}}(s_1) = s_2 \dots$

where  $f_{\text{MAKE}}(s_1) = s_2 \rightarrow f_{\text{LET}}(s_1) = s_2$



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

### 3 Kratzerian approach

- In this talk: A different strategy, building on Kratzer's (1977; 1981) theory (see Privoznov, 2023; Hill, 2024).



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

### 3 Kratzerian approach

- In this talk: A different strategy, building on Kratzer's (1977; 1981) theory (see Privoznov, 2023; Hill, 2024).
- Quantifiers over the same set of eventualities/situations:



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

### 3 Kratzerian approach

- In this talk: A different strategy, building on Kratzer's (1977; 1981) theory (see Privoznov, 2023; Hill, 2024).
- Quantifiers over the same set of eventualities/situations:

- (9) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1 : \dots \exists s_2 : R(s_1)(s_2) \text{ and } [[ XP ] ]^{w,g}(s_2).$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1 : \dots \forall s_2 : R(s_1)(s_2) \rightarrow [[ XP ] ]^{w,g}(s_2).$



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

### 3 Kratzerian approach

- In this talk: A different strategy, building on Kratzer's (1977; 1981) theory (see Privoznov, 2023; Hill, 2024).

- Quantifiers over the same set of eventualities/situations:

- (9) a.  $[[ \dots \text{let} [\text{XP}] \dots ] ]^{w,g} = \dots \exists s_1: \dots \exists s_2: R(s_1)(s_2) \text{ and } [[ \text{XP} ] ]^{w,g}(s_2).$   
 b.  $[[ \dots \text{make} [\text{XP}] \dots ] ]^{w,g} = \dots \exists s_1: \dots \forall s_2: R(s_1)(s_2) \rightarrow [[ \text{XP} ] ]^{w,g}(s_2).$

- Provided that the descriptive characteristics of  $s_1$  and  $R$  are the same, (9b)  $\rightarrow$  (9a).



- (2) a. The weather situation **let**, but didn't **make** [us sit in the gazebo].  
 b. # The weather situation **made**, but didn't **let** [us sit in the gazebo].

### 3 Kratzerian approach

- In this talk: A different strategy, building on Kratzer's (1977; 1981) theory (see Privoznov, 2023; Hill, 2024).

- Quantifiers over the same set of eventualities/situations:

- (9) a.  $[[ \dots \text{let} [XP] \dots ] ]^{w,g} = \dots \exists s_1 : \dots \exists s_2 : R(s_1)(s_2) \text{ and } [[ XP ] ]^{w,g}(s_2).$   
 b.  $[[ \dots \text{make} [XP] \dots ] ]^{w,g} = \dots \exists s_1 : \dots \forall s_2 : R(s_1)(s_2) \rightarrow [[ XP ] ]^{w,g}(s_2).$

- Provided that the descriptive characteristics of  $s_1$  and  $R$  are the same, (9b)  $\rightarrow$  (9a).
- The devil in the details:  $s_1$  and  $R$ .



- Taking a step back and establishing a couple of empirical generalizations.



- Taking a step back and establishing a couple of empirical generalizations.
- Causatives and deontic modal morphemes:



- Taking a step back and establishing a couple of empirical generalizations.
  - Causatives and deontic modal morphemes:
- (10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].
- b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].



- Taking a step back and establishing a couple of empirical generalizations.
- Causatives and deontic modal morphemes:
  - (10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].
    - b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].
- These constructions (10) introduce two eventualities/situations with different descriptive characteristics (and potentially different Aktionsart properties):  $s_1$  (the state of the rules, Rosa's actions) and  $s_2$  (me sitting in the gazebo).



- Taking a step back and establishing a couple of empirical generalizations.

- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[XP]]^{w,g}(s_2) \} / \forall s_2: R(s_1)(s_2) \rightarrow [[XP]]^{w,g}(s_2) \}$ .



- Taking a step back and establishing a couple of empirical generalizations.

- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[ \text{XP} ]]^w, g(s_2) / \forall s_2: R(s_1)(s_2) \rightarrow [[ \text{XP} ]]^w, g(s_2) \}$ .

**1** Independent lexical parameters in the meaning of causatives and deontic modals:



- Taking a step back and establishing a couple of empirical generalizations.
- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: \mathbf{R}(s_1)(s_2) \text{ and } [[ \text{XP} ]]^{\mathbf{w},g}(s_2) \} / \forall s_2: \mathbf{R}(s_1)(s_2) \rightarrow [[ \text{XP} ]]^{\mathbf{w},g}(s_2) \}.$

## 1 Independent lexical parameters in the meaning of causatives and deontic modals:

- 1 Flavour (deontic vs. causal).



- Taking a step back and establishing a couple of empirical generalizations.
- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1 : \dots \{ \exists s_2 : R(s_1)(s_2) \text{ and } [[XP]]^{w,g}(s_2) / \forall s_2 : R(s_1)(s_2) \rightarrow [[XP]]^{w,g}(s_2) \}$ .

## 1 Independent lexical parameters in the meaning of causatives and deontic modals:

- 1 Flavour (deontic vs. causal).
- 2 Quantificational force (existential vs. universal).



- Taking a step back and establishing a couple of empirical generalizations.
- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[XP]]^{w,g}(s_2) \} / \forall s_2: R(s_1)(s_2) \rightarrow [[XP]]^{w,g}(s_2) \}$ .

## 1 Independent lexical parameters in the meaning of causatives and deontic modals:

- 1 Flavour (deontic vs. causal).
- 2 Quantificational force (existential vs. universal).
- 3 Descriptive characteristics of  $s_1$  (agentive vs. non-agentive, state vs. process etc).



- Taking a step back and establishing a couple of empirical generalizations.

- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[XP]]^{w,g}(s_2) \} / \forall s_2: R(s_1)(s_2) \rightarrow [[XP]]^{w,g}(s_2) \}$ .

## 2 Lexicalization patterns:



- Taking a step back and establishing a couple of empirical generalizations.

- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[ XP ]]^w, g(s_2) / \forall s_2: R(s_1)(s_2) \rightarrow [[ XP ]]^w, g(s_2) \}$ .

## 2 Lexicalization patterns:

- A morpheme lexicalizes just the force.



- Taking a step back and establishing a couple of empirical generalizations.

- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[XP]]^{w,g}(s_2) \} / \forall s_2: R(s_1)(s_2) \rightarrow [[XP]]^{w,g}(s_2) \}.$

## 2 Lexicalization patterns:

- A morpheme lexicalizes just the force.
- A morpheme lexicalizes the force and the flavour.



- Taking a step back and establishing a couple of empirical generalizations.

- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[XP]]^{w,g}(s_2) \} / \forall s_2: R(s_1)(s_2) \rightarrow [[XP]]^{w,g}(s_2) \}$ .

## 2 Lexicalization patterns:

- A morpheme lexicalizes just the force.
- A morpheme lexicalizes the force and the flavour.
- A morpheme lexicalizes the force, the flavour and the descriptive characteristics of  $s_1$ .



- Taking a step back and establishing a couple of empirical generalizations.

- Causatives and deontic modal morphemes:

(10) a. The rules of the park **allowed** [me to sit in the gazebo with my dog].

b. By locking the gates to the gazebo, Rosa **made** [me sit in the gazebo with my dog].

(11) [[ ... CAUS/DEON [XP] ... ]]<sup>w,g</sup> =

...  $\exists s_1: \dots \{ \exists s_2: R(s_1)(s_2) \text{ and } [[XP]]^{w,g}(s_2) \} / \forall s_2: R(s_1)(s_2) \rightarrow [[XP]]^{w,g}(s_2) \}.$

## 2 Lexicalization patterns:

- A morpheme lexicalizes just the force.
- A morpheme lexicalizes the force and the flavour.
- A morpheme lexicalizes the force, the flavour and the descriptive characteristics of  $s_1$ .
- (Potentially, a morpheme lexicalizes just the flavour – Karachay-Balkar causative.)



## ■ Outlook:



## ■ Outlook:

- Section 2 on modal flavour.



## ■ Outlook:

- Section 2 on modal flavour.
- Section 3 on quantificational force.



## ■ Outlook:

- Section 2 on modal flavour.
- Section 3 on quantificational force.
- Section 4 on the anchor situation  $s_1$ .



## ■ Outlook:

- Section 2 on modal flavour.
- Section 3 on quantificational force.
- Section 4 on the anchor situation  $s_1$ .
- Section 5 towards a theory.



- Outlook:
  - Section 2 on modal flavour.
  - Section 3 on quantificational force.
  - Section 4 on the anchor situation  $s_1$ .
  - Section 5 towards a theory.
- Data sources: elicitations.



- Outlook:
  - Section 2 on modal flavour.
  - Section 3 on quantificational force.
  - Section 4 on the anchor situation  $s_1$ .
  - Section 5 towards a theory.
- Data sources: elicitations.
  - Two native speakers of Canadian English.



## ■ Outlook:

- Section 2 on modal flavour.
- Section 3 on quantificational force.
- Section 4 on the anchor situation  $s_1$ .
- Section 5 towards a theory.
- Data sources: elicitations.
  - Two native speakers of Canadian English.
  - Three native speakers of Karachay-Balkar, data from Privoznov (2023).



## ■ Outlook:

- Section 2 on modal flavour.
- Section 3 on quantificational force.
- Section 4 on the anchor situation  $s_1$ .
- Section 5 towards a theory.

## ■ Data sources: elicitations.

- Two native speakers of Canadian English.
- Three native speakers of Karachay-Balkar, data from Privoznov (2023).
- My own Russian judgments.



## ■ Outlook:

- Section 2 on modal flavour.
- Section 3 on quantificational force.
- Section 4 on the anchor situation  $s_1$ .
- Section 5 towards a theory.
- Data sources: elicitations.
  - Two native speakers of Canadian English.
  - Three native speakers of Karachay-Balkar, data from Privoznov (2023).
  - My own Russian judgments.
- Very much a work in progress: tentative generalizations.



- 1 Introduction
  - Causatives of different strength
  - Lexical meaning parameters
- 2 Modal flavour**
  - Causative vs. deontic
  - Root modals
  - Summary
- 3 Quantificational force
  - Relative force
  - Absolute force
  - Summary
- 4 Anchor situation
  - Agentivity (and stativity)
  - Positive and negative situations
  - Summary
- 5 Towards a theory
  - The main idea
  - Accessibility relations
  - Anchor situation
- 6 Conclusion



- How can we know if a given morpheme has a deontic/causative reading?



- How can we know if a given morpheme has a deontic/causative reading?
- Put it in an unambiguously deontic/causative context.



- A candidate for an unambiguously deontic context: performatives.



- A candidate for an unambiguously deontic context: performatives.
- For example (cf. # *giving an opportunity* or Russian # *davat* ‘give’ here):



- A candidate for an unambiguously deontic context: performatives.
  - For example (cf. # *giving an opportunity* or Russian # *davat* ‘give’ here):
- (12) CONTEXT: A is B’s kid. There is a school trip to Paris at A’s school coming up. A says: “Can I go on the school trip?” B says: “B: I need to think. I’ll tell you tomorrow.” Next day:
- A: So, what about the trip?
- B: Ok. I’m **allowing** you to go. / Ok. I’ll **allow** you to go.



- A candidate for an unambiguously deontic context: performatives.
  - For example (cf. #*giving an opportunity* or Russian #*davat* ‘give’ here):
- (12) CONTEXT: A is B’s kid. There is a school trip to Paris at A’s school coming up. A says: “Can I go on the school trip?” B says: “B: I need to think. I’ll tell you tomorrow.” Next day:
- A: So, what about the trip?
- B: Ok. I’m **allowing** you to go. / Ok. I’ll **allow** you to go.
- Or (cf. #*making* here):
- (13) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.
- B: I’m **ordering** you to retreat!



- A candidate for an unambiguously deontic context: performatives.
  - For example (cf. #*giving an opportunity* or Russian #*davat* ‘give’ here):
- (12) CONTEXT: A is B’s kid. There is a school trip to Paris at A’s school coming up. A says: “Can I go on the school trip?” B says: “B: I need to think. I’ll tell you tomorrow.” Next day:
- A: So, what about the trip?
- B: Ok. I’m **allowing** you to go. / Ok. I’ll **allow** you to go.
- Or (cf. #*making* here):
- (13) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.
- B: I’m **ordering** you to retreat!
- No causation, an authority source issuing a command/request.



- A candidate for an unambiguously deontic context: performatives.
- Or (cf. # *gives an opportunity* or Russian # *davat* ‘give’ here):

(14) CONTEXT: A phrase printed on an ID card:

This card **allows** its holder to enter all university buildings.

- A candidate for an unambiguously deontic context: performatives.
- Or (cf. # *gives an opportunity* or Russian # *davat* ‘give’ here):

(14) CONTEXT: A phrase printed on an ID card:

This card **allows** its holder to enter all university buildings.

- Or (cf. # *makes* here):

(15) CONTEXT: The top line in a contract:

This contract **requires** the signers to obey the following rules.



- A candidate for an unambiguously deontic context: performatives.
- Or (cf. # *gives an opportunity* or Russian # *davat* ‘give’ here):

(14) CONTEXT: A phrase printed on an ID card:

This card **allows** its holder to enter all university buildings.

- Or (cf. # *makes* here):

(15) CONTEXT: The top line in a contract:

This contract **requires** the signers to obey the following rules.

- No causation, an authority source supplying a permission/rule.



- A candidate for an unambiguously causal context: explicit causation.
- For example, inanimate Causers (no authority source, cf. Russian #*razrešat* ‘permit’ here):

(16) The weather **allowed** us to sit in the gazebo.



- A candidate for an unambiguously causal context: explicit causation.
- For example, inanimate Causers (no authority source, cf. Russian *#razrešat'* 'permit' here):

(16) The weather **allowed** us to sit in the gazebo.

- Or:

(17) The circumstances **required** us to take the longer route to the railway station.



- A candidate for an unambiguously causal context: explicit causation.
- For example, inanimate Causers (no authority source, cf. Russian #*razrešat* ‘permit’ here):

(16) The weather **allowed** us to sit in the gazebo.

- Or:

(17) The circumstances **required** us to take the longer route to the railway station.

- No plausible authority sources, just an inanimate Causer.



- A candidate for an unambiguously causal context: explicit causation.
- Or, explicitly described causation (cf. #*ordered* here):

(18) By pushing us through the door, Rosa **made** us enter the house.



- A candidate for an unambiguously causal context: explicit causation.
- Or, explicitly described causation (cf. #*ordered* here):

(18) By pushing us through the door, Rosa **made** us enter the house.

- No plausible authority sources, just an Agent.



## ■ A sample of morphemes:



## ■ A sample of morphemes:

- English *let, make, allow, order, force, require, permit.*



## ■ A sample of morphemes:

- English *let, make, allow, order, force, require, permit*.
- Balkar *qoj* ‘allow’, *bujur* ‘order’, *-tir* ‘CAUS’ (reporting data from Privoznov, 2023).



## ■ A sample of morphemes:

- English *let*, *make*, *allow*, *order*, *force*, *require*, *permit*.
- Balkar *qoj* ‘allow’, *bujur* ‘order’, *-tir* ‘CAUS’ (reporting data from Privoznov, 2023).
- Russian *davat* ‘give’, *zastavljat* ‘make’, *prinuždat* ‘force’, *prikazyvat* ‘order’, *razrešat* ‘permit’, *pozvoljat* ‘allow’, *trebovat* ‘demand’.



- A sample of morphemes:
  - English *let*, *make*, *allow*, *order*, *force*, *require*, *permit*.
  - Balkar *qoj* ‘allow’, *bujur* ‘order’, *-tir* ‘CAUS’ (reporting data from Privoznov, 2023).
  - Russian *davat* ‘give’, *zastavljat* ‘make’, *prinuždat* ‘force’, *prikazyvat* ‘order’, *razrešat* ‘permit’, *pozvoljat* ‘allow’, *trebovat* ‘demand’.
- How do they fare in unambiguously deontic / unambiguously causative contexts?



- 1 There are morphemes that only allow a deontic reading (e.g. English *order*, Russian *razrešat'* 'permit').



1 There are morphemes that only allow a deontic reading (e.g. English *order*, Russian *razrešat'* 'permit').

- Ok in at least one unambiguously deontic context:

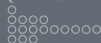


1 There are morphemes that only allow a deontic reading (e.g. English *order*, Russian *razrešat'* 'permit').

- Ok in at least one unambiguously deontic context:

(19) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.

B: I'm **ordering** you to retreat!



1 There are morphemes that only allow a deontic reading (e.g. English *order*, Russian *razrešat'* 'permit').

- Ok in at least one unambiguously deontic context:

(19) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.

B: I'm **ordering** you to retreat!

- Not ok in any unambiguously causative context:



1 There are morphemes that only allow a deontic reading (e.g. English *order*, Russian *razrešat'* 'permit').

- Ok in at least one unambiguously deontic context:

(19) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.

B: I'm **ordering** you to retreat!

- Not ok in any unambiguously causative context:

(20) # By pushing me through the door, Rosa **ordered** me to enter the room.



1 There are morphemes that only allow a deontic reading (e.g. English *order*, Russian *razrešat'* 'permit').

- Ok in at least one unambiguously deontic context:

(19) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.

B: I'm **ordering** you to retreat!

- Not ok in any unambiguously causative context:

(20) # By pushing me through the door, Rosa **ordered** me to enter the room.

- Note that # in (20) cannot be due to inherent agentivity of *order* (see section 4), because in (20),  $s_1$  is agentive.



- 2 There are morphemes that allow both deontic and causal readings (e.g. English *require*, *allow*, *let*, Balkar *qoj* ‘allow’, Russian *pozvoljat* ‘allow’, *trebovat* ‘demand’).



2 There are morphemes that allow both deontic and causal readings (e.g. English *require*, *allow*, *let*, Balkar *qoj* ‘allow’, Russian *pozvoljat* ‘allow’, *trebovat* ‘demand’).

- Ok in at least one unambiguously deontic context:



2 There are morphemes that allow both deontic and causal readings (e.g. English *require*, *allow*, *let*, Balkar *qoj* ‘allow’, Russian *pozvoljat* ‘allow’, *trebovat* ‘demand’).

- Ok in at least one unambiguously deontic context:

(21) CONTEXT: The top line in a contract:

This contract **requires** the signers to obey the following rules.



2 There are morphemes that allow both deontic and causal readings (e.g. English *require*, *allow*, *let*, Balkar *qoj* ‘allow’, Russian *pozvoljat* ‘allow’, *trebovat* ‘demand’).

- Ok in at least one unambiguously deontic context:

(21) CONTEXT: The top line in a contract:

This contract **requires** the signers to obey the following rules.

(22) CONTEXT: A phrase printed on an ID card:

This card **allows** its holder to enter all university buildings.



2 There are morphemes that allow both deontic and causal readings (e.g. English *require*, *allow*, *let*, Balkar *qoj* ‘allow’, Russian *pozvoljat* ‘allow’, *trebovat* ‘demand’).

- Ok in at least one unambiguously deontic context:

(21) CONTEXT: The top line in a contract:

This contract **requires** the signers to obey the following rules.

(22) CONTEXT: A phrase printed on an ID card:

This card **allows** its holder to enter all university buildings.

- Also ok in at least one unambiguously causative context:



2 There are morphemes that allow both deontic and causal readings (e.g. English *require*, *allow*, *let*, Balkar *qoj* ‘allow’, Russian *pozvoljat* ‘allow’, *trebovat* ‘demand’).

- Ok in at least one unambiguously deontic context:

(21) CONTEXT: The top line in a contract:

This contract **requires** the signers to obey the following rules.

(22) CONTEXT: A phrase printed on an ID card:

This card **allows** its holder to enter all university buildings.

- Also ok in at least one unambiguously causative context:

(23) The circumstances **required** us to take the longer route to the railway station.



2 There are morphemes that allow both deontic and causal readings (e.g. English *require*, *allow*, *let*, Balkar *qoj* ‘allow’, Russian *pozvoljat* ‘allow’, *trebovat* ‘demand’).

- Ok in at least one unambiguously deontic context:

(21) CONTEXT: The top line in a contract:

This contract **requires** the signers to obey the following rules.

(22) CONTEXT: A phrase printed on an ID card:

This card **allows** its holder to enter all university buildings.

- Also ok in at least one unambiguously causative context:

(23) The circumstances **required** us to take the longer route to the railway station.

(24) The weather **allowed** us to sit in the gazebo.



- 3 There are morphemes that only allow a causal reading (e.g. English *make*, *give an opportunity*, Balkar *-tir* ‘CAUS’, Russian *davat* ‘give’, *zastavljat* ‘make’).



**3** There are morphemes that only allow a causal reading (e.g. English *make*, *give an opportunity*, Balkar *-tir* ‘CAUS’, Russian *davat* ‘give’, *zastavljat* ‘make’).

- Not ok in any unambiguously deontic context:



**3** There are morphemes that only allow a causal reading (e.g. English *make*, *give an opportunity*, Balkar *-tir* ‘CAUS’, Russian *davat* ‘give’, *zastavljat* ‘make’).

- Not ok in any unambiguously deontic context:

(25) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.

B: # I'm **making** you retreat!



**3** There are morphemes that only allow a causal reading (e.g. English *make*, *give an opportunity*, Balkar *-tir* ‘CAUS’, Russian *davat* ‘give’, *zastavljat* ‘make’).

- Not ok in any unambiguously deontic context:

(25) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.

B: # I'm **making** you retreat!

- But ok in at least one unambiguously causative context:



**3** There are morphemes that only allow a causal reading (e.g. English *make*, *give an opportunity*, Balkar *-tir* ‘CAUS’, Russian *davat* ‘give’, *zastavljat* ‘make’).

- Not ok in any unambiguously deontic context:

(25) CONTEXT: A is an officer commanding a corps in battle. B is a general who is in command of A. B is making a radio call to A.

B: # I'm **making** you retreat!

- But ok in at least one unambiguously causative context:

(26) The weather **made** us run from the central square to the bookstore.



## ■ Preliminary results for English (elicitations with two speakers):



## ■ Preliminary results for English (elicitations with two speakers):

### (27) Modal Flavours (English)

Morpheme	Deontic	Causal
order	yes	no
let	yes	yes
require	yes	yes
permit	yes	yes
allow	yes	yes
make	no	yes
force	no	yes



## ■ Preliminary results for Karachay-Balkar (Privoznov, 2023):

### (28) Modal Flavours (Balkar)

Morpheme	Deontic	Causal
<i>bujur</i> 'order'	yes	no
<i>qoj</i> 'allow'	yes	yes
-TİR 'CAUS'	no	yes



## ■ Preliminary results for Russian (my own judgments):

### (29) Modal Flavours (Russian)

Morpheme	Deontic	Causal
<i>prikazyvat</i> 'order'	yes	no
<i>razrešat</i> 'permit'	yes	no
<i>pozvoljat</i> 'allow'	yes	yes
<i>trebovat</i> 'demand'	yes	yes
<i>davat</i> 'give'	no	yes
<i>zastavljat</i> 'make'	no	yes
<i>prinuždat</i> 'force'	no	yes

- 1 Introduction
  - Causatives of different strength
  - Lexical meaning parameters
- 2 Modal flavour
  - Causative vs. deontic
  - Root modals
  - Summary
- 3 Quantificational force**
  - **Relative force**
  - **Absolute force**
  - **Summary**
- 4 Anchor situation
  - Agentivity (and stativity)
  - Positive and negative situations
  - Summary
- 5 Towards a theory
  - The main idea
  - Accessibility relations
  - Anchor situation
- 6 Conclusion

- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.



- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.
- For example, causal *let* seems weaker than *make*:



- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.
  - For example, causal *let* seems weaker than *make*:
- (30) a. The weather situation **let**, but didn't **make** us sit in the gazebo.
- b. # The weather situation **made**, but didn't **let** us sit in the gazebo.

- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.
  - For example, causal *let* seems weaker than *make*:
- (30) a. The weather situation **let**, but didn't **make** us sit in the gazebo.  
b. # The weather situation **made**, but didn't **let** us sit in the gazebo.
- Note that this is independent of agentivity:

- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.

- For example, causal *let* seems weaker than *make*:

- (30) a. The weather situation **let**, but didn't **make** us sit in the gazebo.  
b. # The weather situation **made**, but didn't **let** us sit in the gazebo.

- Note that this is independent of agentivity:

- (31) a. A soldier **let**, but didn't **make** the major general enter their room.  
b. # A soldier **made**, but didn't **let** the major general enter their room.

- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.
- For example, causal *let* seems weaker than *make*:  
(30) a. The weather situation **let**, but didn't **make** us sit in the gazebo.  
b. # The weather situation **made**, but didn't **let** us sit in the gazebo.
- Note that this is independent of agentivity:  
(31) a. A soldier **let**, but didn't **make** the major general enter their room.  
b. # A soldier **made**, but didn't **let** the major general enter their room.
- Importantly, both examples involve a causal, not a deontic reading.



- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.
- But at the same time causal *let* seems equivalent to causal *allow*:



- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.
  - But at the same time causal *let* seems equivalent to causal *allow*:
- (32) a. # The weather **let** us sit in the gazebo, but it didn't **allow** us to do so.
- b. # The weather situation **allowed** us to sit in the gazebo, but didn't **let** us do so.

- As I indicated at the beginning of the talk, relative quantificational force of two deontic/causative morphemes can be seen in the *p*, *but not q* examples.
  - But at the same time causal *let* seems equivalent to causal *allow*:
- (32) a. # The weather **let** us sit in the gazebo, but it didn't **allow** us to do so.  
b. # The weather situation **allowed** us to sit in the gazebo, but didn't **let** us do so.
- Importantly, this example involves a causal, not a deontic reading.



- The same is true for deontic morphemes.



- The same is true for deontic morphemes.
- For example, deontic *allow* is weaker than deontic *order*:

- The same is true for deontic morphemes.
  - For example, deontic *allow* is weaker than deontic *order*:
- (33) a. By a royal decree, the king allowed, but didn't order the duchess to marry.
- b. By a royal decree, the king ordered, but didn't allow the duchess to marry.      self-contradictory decree

- Not all pairs of morphemes have been tested this way, but there are some preliminary results for causatives.



- Not all pairs of morphemes have been tested this way, but there are some preliminary results for causatives.

(34) Relative strength of English causatives

a. causal *make* ↔ causal *force*

b. causal *make* → causal *let*

c. causal *make* → causal *allow*

d. causal *force* → causal *let*

e. causal *force* → causal *allow*

f. causal *let* ↔ causal *allow*

g. { causal *make*, causal *force* } → { causal *let*, causal *allow* }



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
- But how do we know that this is due to universal vs. existential quantification over the same set of situations?



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
- But how do we know that this is due to universal vs. existential quantification over the same set of situations?
- A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
- But how do we know that this is due to universal vs. existential quantification over the same set of situations?
- A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
- For example, causal *let* vs. causal *make*:



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
  - But how do we know that this is due to universal vs. existential quantification over the same set of situations?
  - A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
  - For example, causal *let* vs. causal *make*:
- (35) The weather **lets** [us sit in the gazebo in the evenings], but it also **lets** [us walk around the park in the evenings].



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
  - But how do we know that this is due to universal vs. existential quantification over the same set of situations?
  - A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
  - For example, causal *let* vs. causal *make*:
- (35) The weather **lets** [us **sit in the gazebo** in the evenings], but it also **lets** [us **walk around the park** in the evenings].
- One cannot sit in the gazebo and walk around the park simultaneously, but (35) is not contradictory.



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
  - But how do we know that this is due to universal vs. existential quantification over the same set of situations?
  - A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
  - For example, causal *let* vs. causal *make*:
- (35) The weather **lets** [us **sit in the gazebo** in the evenings], but it also **lets** [us **walk around the park** in the evenings].
- One cannot sit in the gazebo and walk around the park simultaneously, but (35) is not contradictory.
  - Importantly, we are dealing with a causal, not a deontic reading here.



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
  - But how do we know that this is due to universal vs. existential quantification over the same set of situations?
  - A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
  - For example, causal *let* vs. causal *make*:
- (35) The weather **lets** [us sit in the gazebo in the evenings], but it also **lets** [us walk around the park in the evenings].
- One cannot sit in the gazebo and walk around the park simultaneously, but (35) is not contradictory.
  - Importantly, we are dealing with a causal, not a deontic reading here.
  - NB! I use Present Simple here in order to avoid actuality entailments (see Bhatt, 1999; Hacquard, 2006; Alxatib, 2019, 2021; Nadathur, 2019, 2020, 2024, etc.).



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
  - But how do we know that this is due to universal vs. existential quantification over the same set of situations?
  - A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
  - For example, causal *let* vs. causal *make*:
- (36) # The weather **makes** [us sit in the gazebo in the evenings], but it also **makes** [us walk around the park in the evenings].



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
  - But how do we know that this is due to universal vs. existential quantification over the same set of situations?
  - A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
  - For example, causal *let* vs. causal *make*:
- (36) # The weather **makes** [us sit in the gazebo in the evenings], but it also **makes** [us walk around the park in the evenings].
- Unlike *let*, *make* is contradictory in this context.



- Suppose we've established that  $X$  make  $Y \rightarrow X$  let  $Y$ .
  - But how do we know that this is due to universal vs. existential quantification over the same set of situations?
  - A piece of evidence in favour of this: *Mod p*, and *Mod ¬p* examples.
  - For example, causal *let* vs. causal *make*:
- (36) # The weather **makes** [us sit in the gazebo in the evenings], but it also **makes** [us walk around the park in the evenings].
- Unlike *let*, *make* is contradictory in this context.
  - Importantly, again, we are dealing with a causal, not a deontic reading here.



■ In other words, we have a minimal pair of causal *let* vs. causal *make*:

- (35) The weather **lets** [us sit in the gazebo in the evenings], but it also **lets** [us walk around the park in the evenings].
- (36) # The weather **makes** [us sit in the gazebo in the evenings], but it also **makes** [us walk around the park in the evenings].



- In other words, we have a minimal pair of causal *let* vs. causal *make*:
- (35) The weather **lets** [us sit in the gazebo in the evenings], but it also **lets** [us walk around the park in the evenings].
- (36) # The weather **makes** [us sit in the gazebo in the evenings], but it also **makes** [us walk around the park in the evenings].
- We can explain this, if we assume that causal *let* introduces existential (or anything weaker than universal) quantification, while causal *make* introduces universal quantification over the same set of eventualities/situations.



- Another property of existential modal quantifiers: Licensing free choice readings (Kamp, 1974; Zimmerman, 2000; Simons, 2005; Fox, 2007).



- Another property of existential modal quantifiers: Licensing free choice readings (Kamp, 1974; Zimmerman, 2000; Simons, 2005; Fox, 2007).
- Existential, but not universal epistemic modals:



- Another property of existential modal quantifiers: Licensing free choice readings (Kamp, 1974; Zimmerman, 2000; Simons, 2005; Fox, 2007).
  - Existential, but not universal epistemic modals:
- (37) a. If given what we know, the ball **might** [be in the blue box **or** the red box], it **might** be in the blue box.
- b. <sup>#</sup> If given what we know, the ball **must** [be in the blue box **or** the red box], it **must** be in the blue box.



- Another property of existential modal quantifiers: Licensing free choice readings (Kamp, 1974; Zimmerman, 2000; Simons, 2005; Fox, 2007).
- Existential, but not universal deontic modals:



- Another property of existential modal quantifiers: Licensing free choice readings (Kamp, 1974; Zimmerman, 2000; Simons, 2005; Fox, 2007).
  - Existential, but not universal deontic modals:
- (38) a. If the rules of the university **allow** [you to use room 101 **or** room 102 for your seminar], they **allow** you to use room 101 for your seminar.
- b. # If the rules of the university **require** [you to use room 101 **or** room 102 for your seminar], they **require** you to use room 101 for your seminar.



- Another property of existential modal quantifiers: Licensing free choice readings (Kamp, 1974; Zimmerman, 2000; Simons, 2005; Fox, 2007).
- Causatives:

- Another property of existential modal quantifiers: Licensing free choice readings (Kamp, 1974; Zimmerman, 2000; Simons, 2005; Fox, 2007).
- Causatives:
  - (39) a. If the weather **lets** [the students sit **or** walk on the grass outside], it will **let** the students sit on the grass outside.
  - b. # If the weather **makes** [the students sit **or** walk on the grass outside], it will **make** the students sit on the grass outside. your seminar.



- Another property of existential modal quantifiers: Licensing free choice *any*.



- Another property of existential modal quantifiers: Licensing free choice *any*.
- Existential, but not universal epistemic modals:



- Another property of existential modal quantifiers: Licensing free choice *any*.
  - Existential, but not universal epistemic modals:
- (40) a. Given what we know, the ball **might** [be in **any** of the three boxes].
- b. # Given what we know, the ball **must** [be in **any** of the three boxes].



- Another property of existential modal quantifiers: Licensing free choice *any*.
- Existential, but not universal epistemic modals:

- Another property of existential modal quantifiers: Licensing free choice *any*.
  - Existential, but not universal epistemic modals:
- (41) a. The rules of the university **allow** [me to use **any** room for my seminar].  
b. ?? The rules of the university **require** [me to use **any** room for my seminar].



- Another property of existential modal quantifiers: Licensing free choice *any*.
- Causatives:



- Another property of existential modal quantifiers: Licensing free choice *any*.
- Causatives:
  - (42) a. The weather will **let** [the students sit in **any** of the gazebos in the park].
  - b. # The weather will **make** [the students sit in **any** of the gazebos in the park].



## ■ Very preliminary results for English (elicitations with two speakers):

### (43) Quantificational Force (English)

Morpheme	Deontic	Causal
order	□	#
let	◇	◇
require	□	□
permit	◇	◇
allow	◇	◇
make	#	□
force	#	□



- Very preliminary results for English (elicitations with two speakers):

(43) Quantificational Force (English)

Morpheme	Deontic	Causal
order	□	#
let	◇	◇
require	□	□
permit	◇	◇
allow	◇	◇
make	#	□
force	#	□

- Importantly, these morphemes seem to lexicalize:

- Very preliminary results for English (elicitations with two speakers):

(43) Quantificational Force (English)

Morpheme	Deontic	Causal
order	□	#
let	◇	◇
require	□	□
permit	◇	◇
allow	◇	◇
make	#	□
force	#	□

- Importantly, these morphemes seem to lexicalize:

- Force, but no flavour (e.g. *let*, *require*).

■ Very preliminary results for English (elicitations with two speakers):

(43) Quantificational Force (English)

Morpheme	Deontic	Causal
order	□	#
let	◇	◇
require	□	□
permit	◇	◇
allow	◇	◇
make	#	□
force	#	□

■ Importantly, these morphemes seem to lexicalize:

- Force, but no flavour (e.g. *let*, *require*).
- Force and flavour (e.g. *order*, *force*).



## ■ Very preliminary results for Karachay-Balkar (Privoznov, 2023):

### (44) Quantificational Force (Balkar)

Morpheme	Deontic	Causal
<i>bujur</i> 'order'	□	#
<i>qoj</i> 'allow'	◇	◇
-TiR 'CAUS'	#	◇/□



- Very preliminary results for Karachay-Balkar (Privoznov, 2023):

(44) Quantificational Force (Balkar)

Morpheme	Deontic	Causal
<i>bujur</i> 'order'	□	#
<i>qoj</i> 'allow'	◇	◇
- <i>TiR</i> 'CAUS'	#	◇/□

- Here, *-tir* seems to have variable force (*let*-causatives vs. *make*-causatives).

- Very preliminary results for Karachay-Balkar (Privoznov, 2023):

## (44) Quantificational Force (Balkar)

Morpheme	Deontic	Causal
<i>bujur</i> 'order'	□	#
<i>qoj</i> 'allow'	◇	◇
- <i>tir</i> 'CAUS'	#	◇/□

- Here, *-tir* seems to have variable force (*let*-causatives vs. *make*-causatives).
- But it may be that the force of *-tir* is fixed for each lexical verb it can attach to.



## ■ Very preliminary results for Russian (my own judgments):

### (45) Quantificational Force (Russian)

Morpheme	Deontic	Causal
<i>prikazyvat'</i> 'order'	□	#
<i>razrešat'</i> 'permit'	◇	#
<i>pozvoljat'</i> 'allow'	◇	◇
<i>trebovat'</i> 'demand'	□	□
<i>davat'</i> 'give'	#	◇
<i>zastavljat'</i> 'make'	#	□
<i>prinuždat'</i> 'force'	#	□

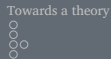
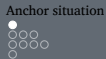
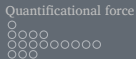


- Very preliminary results for Russian (my own judgments):

(45) Quantificational Force (Russian)

Morpheme	Deontic	Causal
<i>prikazyvat</i> 'order'	□	#
<i>razrešat</i> 'permit'	◇	#
<i>pozvoljat</i> 'allow'	◇	◇
<i>trebovat</i> 'demand'	□	□
<i>davat</i> 'give'	#	◇
<i>zastavljat</i> 'make'	#	□
<i>prinuždat</i> 'force'	#	□

- Here, again, force is always lexicalized, flavour is sometimes lexicalized.



- 1 Introduction
  - Causatives of different strength
  - Lexical meaning parameters
- 2 Modal flavour
  - Causative vs. deontic
  - Root modals
  - Summary
- 3 Quantificational force
  - Relative force
  - Absolute force
  - Summary
- 4 **Anchor situation**
  - **Agentivity (and stativity)**
  - **Positive and negative situations**
  - **Summary**
- 5 Towards a theory
  - The main idea
  - Accessibility relations
  - Anchor situation
- 6 Conclusion



- Some, but crucially not all, deontic and causative morphemes also lexicalize the descriptive properties (and/or Aktionsart properties) of the anchor situation ( $s_1$ ).

- Some, but crucially not all, deontic and causative morphemes also lexicalize the descriptive properties (and/or Aktionsart properties) of the anchor situation ( $s_1$ ).
- Interestingly, *make*, *let* or *allow* underspecify these properties.

- Some, but crucially not all, deontic and causative morphemes also lexicalize the descriptive properties (and/or Aktionsart properties) of the anchor situation ( $s_1$ ).
- Interestingly, *make*, *let* or *allow* underspecify these properties.
- For example, the anchor situation of causal *make* can be agentive or not:

## Agentivity (and stativity)

- Some, but crucially not all, deontic and causative morphemes also lexicalize the descriptive properties (and/or Aktionsart properties) of the anchor situation ( $s_1$ ).
- Interestingly, *make*, *let* or *allow* underspecify these properties.
- For example, the anchor situation of causal *make* can be agentive or not:

(46) a. By pushing us through the door, Rosa **made** us enter the house.

Agentive

b. The weather situation **made** us sit in the gazebo.

Non-Agentive

- Some, but crucially not all, deontic and causative morphemes also lexicalize the descriptive properties (and/or Aktionsart properties) of the anchor situation ( $s_1$ ).
- Interestingly, *make*, *let* or *allow* underspecify these properties.
- For example, the anchor situation of causal *make* can be agentive or not:

(46) a. By pushing us through the door, Rosa **made** us enter the house.

Agentive

b. The weather situation **made** us sit in the gazebo.

Non-Agentive

- The same is true for causal *let*:



- Some, but crucially not all, deontic and causative morphemes also lexicalize the descriptive properties (and/or Aktionsart properties) of the anchor situation ( $s_1$ ).
- Interestingly, *make*, *let* or *allow* underspecify these properties.
- For example, the anchor situation of causal *make* can be agentive or not:

- (46) a. By pushing us through the door, Rosa **made** us enter the house. Agentive
- b. The weather situation **made** us sit in the gazebo. Non-Agentive

- The same is true for causal *let*:

- (47) a. By opening the door, Rosa **let** the burglars enter the house. Agentive
- b. The weather situation **let** us sit in the gazebo. Non-Agentive



- Note that this variability is not restricted to causal readings.

- Note that this variability is not restricted to causal readings.
- Deontic *allow*, for example, also underspecifies the agentivity of the anchor situation:

- Note that this variability is not restricted to causal readings.
- Deontic *allow*, for example, also underspecifies the agentivity of the anchor situation:

- (48) a. By a royal decree, the king **allowed** the duchess to marry. Agentive
- b. This card **allows** its holder to enter all university buildings. Non-Agentive



- There are some preliminary data that suggest that deontic *order* specifies the anchor situation as agentive:



- There are some preliminary data that suggest that deontic *order* specifies the anchor situation as agentive:



- There are some preliminary data that suggest that deontic *order* specifies the anchor situation as agentive:

- (49) a. By a royal decree, the king **ordered** the duchess to marry. Agentive
- b. # This contract **orders** the signers to obey the following rules. Non-Agentive

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- For example, causal *let* allows both:

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- For example, causal *let* allows both:

- (50) a. By opening the door, Rosa **let** the burglars enter the house. Positive  $s_1$
- b. By deliberately not standing in our way, the dog **let** us enter the house. Negative  $s_1$
- c. The lack of traffic **let** us reach the airport on time. Negative  $s_1$

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).

- For example, causal *let* allows both:

- (50) a. By opening the door, Rosa **let** the burglars enter the house. Positive  $s_1$   
b. By deliberately not standing in our way, the dog **let** us enter the house. Negative  $s_1$   
c. The lack of traffic **let** us reach the airport on time. Negative  $s_1$

- We can capture this, if we allow negative situation descriptions, see, among others, Bernard and Champollion (2018); Kratzer (2021).

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- The same is true for causal *force*:

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- The same is true for causal *force*:

- (51) a. By pushing us through the door, Rosa **forced** us to enter the house. Positive  $s_1$   
b. By not bringing his jacket with him, Karl **forced** his mom to run home and grab it. Negative  $s_1$

## Positive and negative situations

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- The same is true for deontic *allow*:

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- The same is true for deontic *allow*:

- (52) a. By a royal decree, the king **allowed** the duchess to marry. Positive  $s_1$
- b. By not explicitly mentioning snowball fights in their speech, the school principal **allowed** the kids to have a snowball fight. Negative  $s_1$

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- The same is true for deontic *require*:

- Many deontic and causative morphemes are compatible with either positive or negative anchor situation (so-called causation by action vs. causation by omission readings, see e.g. Raffy, 2021).
- The same is true for deontic *require*:

- (53) a. By a royal decree, the king **required** the duchess to marry. Positive  $s_1$
- b. CONTEXT: Only if the king presses this button, are the courtiers allowed to leave the room, and the king knows this.
- By not pressing the button, the king **required** the courtiers to stay in the room. Negative  $s_1$



- In other words, some deontic and causative morphemes underspecify the descriptive characteristics of the anchor situation  $s_1$  (e.g. causal *let*, *force*, deontic *allow*, *require*):



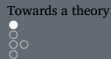
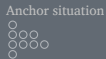
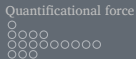
- In other words, some deontic and causative morphemes underspecify the descriptive characteristics of the anchor situation  $s_1$  (e.g. causal *let*, *force*, deontic *allow*, *require*):
  - It can be agentive or non-agentive.



- In other words, some deontic and causative morphemes underspecify the descriptive characteristics of the anchor situation  $s_1$  (e.g. causal *let*, *force*, deontic *allow*, *require*):
  - It can be agentive or non-agentive.
  - It can be positive or negative.



- In other words, some deontic and causative morphemes underspecify the descriptive characteristics of the anchor situation  $s_1$  (e.g. causal *let*, *force*, deontic *allow*, *require*):
  - It can be agentive or non-agentive.
  - It can be positive or negative.
- While others (e.g. *order*) do lexically specify the descriptive characteristics of  $s_1$  (for *order* it has to be agentive and positive).



- 1 Introduction
  - Causatives of different strength
  - Lexical meaning parameters
- 2 Modal flavour
  - Causative vs. deontic
  - Root modals
  - Summary
- 3 Quantificational force
  - Relative force
  - Absolute force
  - Summary
- 4 Anchor situation
  - Agentivity (and stativity)
  - Positive and negative situations
  - Summary
- 5 Towards a theory**
  - The main idea
  - Accessibility relations
  - Anchor situation
- 6 Conclusion



- In this section, I will sketch an analysis of the data.



- In this section, I will sketch an analysis of the data.
- Coming back to the main idea, building on Kratzer (1977, 1981), the proposed meaning of causative and deontic morphemes is as follows:

- In this section, I will sketch an analysis of the data.
- Coming back to the main idea, building on Kratzer (1977, 1981), the proposed meaning of causative and deontic morphemes is as follows:

- (54) a.  $[[ \dots M_1 [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \exists s_2: R(s_1)(s_2) \text{ and } [[ XP ] ]^{w,g}(s_2).$
- b.  $[[ \dots M_2 [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \forall s_2: R(s_1)(s_2) \rightarrow [[ XP ] ]^{w,g}(s_2).$

- In this section, I will sketch an analysis of the data.
- Coming back to the main idea, building on Kratzer (1977, 1981), the proposed meaning of causative and deontic morphemes is as follows:

- (54) a.  $[[ \dots M_1 [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \exists s_2: R(s_1)(s_2) \text{ and } [[ XP ] ]^{w,g}(s_2).$   
b.  $[[ \dots M_2 [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \forall s_2: R(s_1)(s_2) \rightarrow [[ XP ] ]^{w,g}(s_2).$

- The specific morphemes vary with respect to what they lexically specify:

- In this section, I will sketch an analysis of the data.
- Coming back to the main idea, building on Kratzer (1977, 1981), the proposed meaning of causative and deontic morphemes is as follows:

- (54) a.  $[[ \dots M_1 [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \exists s_2: R(s_1)(s_2) \text{ and } [[ XP ] ]^{w,g}(s_2).$   
b.  $[[ \dots M_2 [XP] \dots ] ]^{w,g} = \dots \exists s_1: \dots \forall s_2: R(s_1)(s_2) \rightarrow [[ XP ] ]^{w,g}(s_2).$

- The specific morphemes vary with respect to what they lexically specify:
  - Just the quantificational force (e.g. English *allow*).



- In this section, I will sketch an analysis of the data.
- Coming back to the main idea, building on Kratzer (1977, 1981), the proposed meaning of causative and deontic morphemes is as follows:

- (54) a.  $[[ \dots M_1 [XP] \dots ]]^{w,g} = \dots \exists s_1: \dots \exists s_2: R(s_1)(s_2) \text{ and } [[ XP ]]^{w,g}(s_2).$   
 b.  $[[ \dots M_2 [XP] \dots ]]^{w,g} = \dots \exists s_1: \dots \forall s_2: R(s_1)(s_2) \rightarrow [[ XP ]]^{w,g}(s_2).$

- The specific morphemes vary with respect to what they lexically specify:
  - Just the quantificational force (e.g. English *allow*).
  - Quantificational force and accessibility relation R (e.g. English *make*).

- In this section, I will sketch an analysis of the data.
- Coming back to the main idea, building on Kratzer (1977, 1981), the proposed meaning of causative and deontic morphemes is as follows:

- (54) a.  $[[ \dots M_1 [XP] \dots ]]^{w,g} = \dots \exists s_1: \dots \exists s_2: R(s_1)(s_2) \text{ and } [[ XP ]]^{w,g}(s_2).$   
b.  $[[ \dots M_2 [XP] \dots ]]^{w,g} = \dots \exists s_1: \dots \forall s_2: R(s_1)(s_2) \rightarrow [[ XP ]]^{w,g}(s_2).$

- The specific morphemes vary with respect to what they lexically specify:
  - Just the quantificational force (e.g. English *allow*).
  - Quantificational force and accessibility relation R (e.g. English *make*).
  - Quantificational force, accessibility relation R and the descriptive characteristics of  $s_1$  (e.g. English *order*).

- In this section, I will sketch an analysis of the data.
- Coming back to the main idea, building on Kratzer (1977, 1981), the proposed meaning of causative and deontic morphemes is as follows:

(54) a.  $[[ \dots M_1 [XP] \dots ]]^{w,g} = \dots \exists s_1 : \dots \exists s_2 : R(s_1)(s_2) \text{ and } [[ XP ]]^{w,g}(s_2).$   
 b.  $[[ \dots M_2 [XP] \dots ]]^{w,g} = \dots \exists s_1 : \dots \forall s_2 : R(s_1)(s_2) \rightarrow [[ XP ]]^{w,g}(s_2).$

- The specific morphemes vary with respect to what they lexically specify:
  - Just the quantificational force (e.g. English *allow*).
  - Quantificational force and accessibility relation R (e.g. English *make*).
  - Quantificational force, accessibility relation R and the descriptive characteristics of  $s_1$  (e.g. English *order*).
  - (Possibly, just flavour – Karachay-Balkar *-tir* ‘CAUS’.)



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.
- Deontic R:



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.

- Deontic R:

(55) For any pair of situations  $s$  and  $s'$   $R_{\text{deon}}(s)(s')$  if and only if:

- $s$  is a situation of issuing some rule/order/permission or a situation of some rule/law being in place;
- $s'$  is a situation where this rule/order/permission/law is being followed.



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.
- Causal R:



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.

- Causal R:

(56) For any pair of situations  $s$  and  $s'$   $R_{\text{caus}}(s)(s')$  if and only if:

- $s$  is a situation;
- $s'$  is the whole causal chain initiated by some counterpart of  $s$ .



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.
  - Causal R:
- (56) For any pair of situations  $s$  and  $s'$   $R_{\text{caus}}(s)(s')$  if and only if:
- a.  $s$  is a situation;
  - b.  $s'$  is the whole causal chain initiated by some counterpart of  $s$ .
- For more details and proper definitions see Privoznov (2023).



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.

- Causal R:

(56) For any pair of situations  $s$  and  $s'$   $R_{\text{caus}}(s)(s')$  if and only if:

- $s$  is a situation;
- $s'$  is the whole causal chain initiated by some counterpart of  $s$ .

- For more details and proper definitions see Privoznov (2023).
- Importantly, for the analysis presented here to work the complement of the deontic/causal morpheme has to denote a non-minimized predicate of situations (see Kratzer, 2021), e.g.:



- Two flavours (deontic vs. causal) correspond to two different accessibility relations.

- Causal R:

(56) For any pair of situations  $s$  and  $s'$   $R_{\text{caus}}(s)(s')$  if and only if:

- $s$  is a situation;
- $s'$  is the whole causal chain initiated by some counterpart of  $s$ .

- For more details and proper definitions see Privoznov (2023).
- Importantly, for the analysis presented here to work the complement of the deontic/causal morpheme has to denote a non-minimized predicate of situations (see Kratzer, 2021), e.g.:

(57)  $[[ \text{Rosa sit in the gazebo} ]]^{\text{w},g} = \lambda s. \text{Rosa sits in the gazebo in } s.$



- In addition to the quantificational force and the accessibility relation, some deontic and causal morphemes can also lexically specify the descriptive characteristics of  $s_1$ .

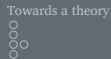
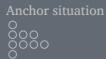


- In addition to the quantificational force and the accessibility relation, some deontic and causal morphemes can also lexically specify the descriptive characteristics of  $s_1$ .
- For example, English *order*:



- In addition to the quantificational force and the accessibility relation, some deontic and causal morphemes can also lexically specify the descriptive characteristics of  $s_1$ .
- For example, English *order*:

$$(58) \quad [[\text{order}]]^{w,g} = \lambda P. \lambda x. \lambda s_1. \text{Agent}(s_1) = x \text{ and } \forall s_2: R_{\text{deon}}(s_1)(s_2) \rightarrow P(s_2).$$



- 1 Introduction
  - Causatives of different strength
  - Lexical meaning parameters
- 2 Modal flavour
  - Causative vs. deontic
  - Root modals
  - Summary
- 3 Quantificational force
  - Relative force
  - Absolute force
  - Summary
- 4 Anchor situation
  - Agentivity (and stativity)
  - Positive and negative situations
  - Summary
- 5 Towards a theory
  - The main idea
  - Accessibility relations
  - Anchor situation
- 6 Conclusion



- To sum up, I hope to have argued for the fruitfulness of the Kratzerian (1977, 1981) approach to causative and deontic morphemes.



- To sum up, I hope to have argued for the fruitfulness of the Kratzerian (1977, 1981) approach to causative and deontic morphemes.
- Specifically, I hope to have argued that this approach:



- To sum up, I hope to have argued for the fruitfulness of the Kratzerian (1977, 1981) approach to causative and deontic morphemes.
- Specifically, I hope to have argued that this approach:
  - Makes sense of the relative and absolute truth-conditional strength of causative and deontic constructions (*make* vs. *let*).



- To sum up, I hope to have argued for the fruitfulness of the Kratzerian (1977, 1981) approach to causative and deontic morphemes.
- Specifically, I hope to have argued that this approach:
  - Makes sense of the relative and absolute truth-conditional strength of causative and deontic constructions (*make* vs. *let*).
  - Makes sense of the lexicalization patterns in causative and deontic morphemes.



## Acknowledgements:

This talk was made possible with the help and the consultation from Sabine Iatridou, Roger Schwarzschild, Hedde Zeijlstra, Kai von Fintel, Neil Banerjee, David Pesetsky, Edward Flemming, Sergei Tatevosov and Tatiana Bondarenko, as well as the audience of WAFL17. I would also like to thank Ömer Demirok for an insightful comment. Last, but not least, my gratitude goes to Asijat Gazieva, Aslizhan Nogerova, Alim Ulbashev, Neil Banerjee and Samhita Misra for sharing their linguistic intuitions with me. All mistakes and errors are my own.



# Thank you!

# References I

- Alxatib, Sam, 2019. Actuality entailments and free choice. *Journal of Semantics* 36(4): 701–720.
- Alxatib, Sam, 2021. The ability root in Palestinian Arabic and its actuality entailment. *Natural Language and Linguistic Theory* 39: 657–685.
- Bernard, Timothée and Champollion, Lucas, 2018. Negative events in compositional semantics. In: *SALT28 Proceedings*. 512–532.
- Bhatt, Rajesh, 1999. *Covert Modality in Non-Finite Contexts*. Philadelphia, PA, USA: PhD Dissertation, UPenn.
- Copley, Bridget, 2018. Dispositional causation. *Glossa: A Journal General Linguistics* 3(1): 1–36.
- Copley, Bridget and Harley, Heidi, 2015. A force-theoretic framework for event structure. *Linguistics and Philosophy* 38(2): 103–158.
- Copley, Bridget and Wolff, Philip, 2014. Theories of causation should inform linguistic theory and vice versa. In: *Causation in Grammatical Structures*, edited by Bridget Copley and Fabienne Martin, Oxford, UK: Oxford University Press. 11–57.
- Copley, Bridget, Wolff, Philip, and Shepard, Jason, 2015. Force interaction in the expression of causation. In: *SALT25 Proceedings*, edited by Sarah D'Antonio, Mary Moroney, and Carol Rose Little. 433–451. URL <https://journals.linguisticsociety.org/proceedings/index.php/SALT/article/view/25.433>.
- Davidson, Donald, 1967a. Causal relations. *Journal of Philosophy* 64: 691–703.
- Davidson, Donald, 1967b. The logical form of action sentences. *The Logic of Decision and Action* : 81–95.
- Davidson, Donald, 1980. *Essays on Actions and Events*. Oxford, UK: Clarendon Press.
- Dowty, David, 1979. *Word Meaning and Montague Grammar*. Dordrecht, The Netherlands: D. Reidel Publishing Company.
- Fox, Danny, 2007. Free choice and the theory of scalar implicatures. In: *Presupposition and Implicature in Compositional Semantics. Palgrave Studies in Pragmatics, Language and Cognition*, edited by U. Sauerland and P. Stateva, London, UK: Palgrave Macmillan. 71–120.

## References II

- Hacquard, Valentine, 2006. *Aspects of Modality*. Cambridge, MA, USA: PhD Dissertation, Massachusetts Institute of Technology.
- Harley, Heidi, 2008. On the causative construction. In: *The Oxford Handbook of Japanese Linguistics*, edited by Shigeru Miyagawa, New York, NY, USA: Oxford University Press. 20–53.
- Hill, Angelica, 2024. The case for an anchored CAUSE. In: *Proceedings of the 24th Amsterdam Colloquium*, edited by Fausto Carcassi, Tamar Johnson, Søren Brinck Knudstorp, Sabina Domínguez Parrado, Pablo Rivas Robledo, and Giorgio Sbardolini, Amsterdam, The Netherlands. 159–166.
- Kamp, Hans, 1974. Free choice permission. In: *Proceedings of the Aristotelian Society 74 (1)*. 57–74.
- Kratzer, Angelika, 1977. What ‘must’ and ‘can’ must and can mean. *Linguistics and Philosophy* 1(3): 337–355.
- Kratzer, Angelika, 1981. The notional category of modality. In: *Words, Worlds, and Contexts. New Approaches in Word Semantics*, edited by Hans J. Eikmeyer and Hannes Rieser, Berlin, Germany and Boston, MA, USA: Mouton de Gruyter. 38–74. doi:doi:10.1515/9783110842524-004.
- Kratzer, Angelika, 2021. Situations in natural language semantics. URL <https://plato.stanford.edu/entries/situations-semantics/>, In: *Stanford Encyclopedia of Philosophy*, edited by E. Z.alta.
- Lewis, David K., 1973. Causation. *Journal of Philosophy* 70(17): 556–567.
- Lyutikova, Ekaterina and Tatevosov, Sergei, 2012. A finer look at predicate decomposition: evidence from causativization. In: *Empirical Issues in Syntax and Semantics 9*, edited by Christopher Piñon, Paris, France: CSSP. 207–224.
- Lyutikova, Ekaterina and Tatevosov, Sergei, 2014. Causativization and event structure. In: *Causation in Grammatical Structures*, edited by Bridget Copley and Fabienne Martin, Oxford, UK: Oxford University Press. 279–327.

## References III

- Lyutikova, Ekaterina and Tatevosov, Sergei, 2018. Event (de)composition and fake causativization. In: *Proceedings of the 10th Workshop on Altaic Formal Linguistics*, Cambridge, MA, USA: MITWPL. 34–56.
- Lyutikova, Ekaterina, Tatevosov, Sergei, Ivanov, Mikhail, Pazelskaya, Anna, and Shluinsky, Andrey, 2006. *Структура события и семантика глагола в карачаево-балкарском языке (Event Structure and Verb Semantics in Karachay-Balkar)*. Moscow, Russia: IMLI RAN.
- Nadathur, Prerna, 2019. *Causality, Aspect, and Modality in Actuality Inferences*. Stanford, CA, USA: PhD Dissertation, Stanford University.
- Nadathur, Prerna, 2020. Causality and aspect in ability, actuality, and implicativity. In: *SALT30 Proceedings*. 409–429. URL <https://journals.linguisticsociety.org/proceedings/index.php/SALT/issue/view/174>.
- Nadathur, Prerna, 2024. Causal semantics for implicative verbs. *Journal of Semantics* 40: 311–358.
- Parsons, Terence, 1990. *Events in the Semantics of English*. Cambridge, MA, USA: MIT Press.
- Privoznov, Dmitry, 2023. On actuality entailments, causation, and telicity in Balkar. In: *Languages 8(3). Theoretical Studies on Turkic Languages*, edited by Jaklin Kornfilt. 1–43. URL <https://www.mdpi.com/2226-471X/8/3/178>.
- Raffy, Clémentine, 2021. *Letting in Romance*. Paris, France: PhD Dissertation, Université Paris VIII.
- Ramchand, Gillian, 2008. *Verb Meaning and the Lexicon: A First-Phase Syntax*. Cambridge, MA, USA: Cambridge University Press.
- Simons, Mandy, 2005. Semantics and pragmatics in the interpretation of “or”. In: *SALT15 Proceedings*. 205–222. URL <https://doi.org/10.3765/salt.v15i0.2929>.
- Talmy, Leonard, 2000. *Toward a Cognitive Semantics. Volume II. Typology and Process in Concept Structuring*. Cambridge, MA, USA: MIT Press.
- Tatevosov, Sergei, 2008. Subevental structure and non-culmination. In: *Empirical Issues in Syntax and Semantics 7*, edited by O. Bonami and P. Cabredo Hofherr, Paris, France: CSSP. 393–422.
- Zimmerman, Thomas Ede, 2000. Free choice disjunction and epistemic possibility. *Natural Language Semantics* 8(4): 255–290.