

Modality in Causatives

Author(s): Murat Kural

Proceedings of the Twenty-Third Annual Meeting of the Berkeley Linguistics Society: General Session and Parasession on Pragmatics and Grammatical Structure (1997), pp. 224-233

Please see “How to cite” in the online sidebar for full citation information.

Please contact BLS regarding any further use of this work. BLS retains copyright for both print and screen forms of the publication. BLS may be contacted via <http://linguistics.berkeley.edu/bls/>.

The Annual Proceedings of the Berkeley Linguistics Society is published online via [eLanguage](#), the Linguistic Society of America's digital publishing platform.

Modality in Causatives*

Murat Kural

University of California, Los Angeles

1 A Mirror Principle Problem

The Mirror Principle, as proposed by Baker (1985), asserts that the order in which morphemes appear on a morphologically complex element must conform to the hierarchical order in which the corresponding heads appear in the syntax.

- (1) *The Mirror Principle*: Morphological derivations must directly reflect syntactic derivations (and vice versa).

Crucially, this principle regulates the distribution of a given morpheme relative to the other morphemes. It mandates that when a root is followed by three affixes, as in *root-aff1-aff2-aff3*, the corresponding heads H_R , H_1 , H_2 , and H_3 will appear in the syntax in the same hierarchical order such that H_3 appears closer to H_2 than H_1 or H_R , and H_2 is closer to H_1 and H_3 instead of H_R , and H_1 is closer to H_R and H_2 rather than H_3 , and so on. This guarantees that the morphological order in (2) correlates with either syntactic hierarchy in (3), depending on whether the language is head-initial, as in (3a), or head-final, as in (3b).

(2) *root-aff1-aff2-aff3*

- (3) a. ... H_3 [... H_2 [... H_1 [... H_R ...
b. ... H_R] H_1] H_2] H_3 ...

The Mirror Principle is an important feature of the syntactic theory because it establishes transparency between the morphological component and the syntax. Clearly, a theory that is capable of maintaining transparency between components is simpler than a theory in which each component acts independently from one another. Therefore, there is much at stake in preserving a principle along the lines of what is stated in (1) unless there is convincing evidence to the contrary.

An apparent counterexample to the Mirror Principle is observed in the causative structures in the context of negation in Turkish. The negation morpheme appears outside the causative morpheme, as seen in (4), which, according to the Mirror Principle, should indicate that the negation head NEG is located at a position that is higher than the causative head CAUSE in the structure. As a result, one would expect that negation would take scope over causation in this construction, which is certainly a reading that is available, but not the only

one. Crucially, sentences such as (4) display scopal ambiguity between negation and causation. The relevant morphemes are bold-faced below.

- (4) *pro* Emine'yi bugün çalış-**tır**-**ma**-dı-m
 1.SG E.-ACC today work-CAUSE-NEG-PAST-1SG
 a. 'I didn't make Emine work today' (NEG > CAUSE)
 b. 'I made Emine not work today' (CAUSE > NEG)

The first interpretation where negation takes scope over causation, i.e., NEG > CAUSE is what the Mirror Principle predicts. However, as correctly pointed out by Göksel (1993), the second interpretation where causation takes scope over negation, i.e., CAUSE > NEG, presents a Mirror Principle violation since the causative morpheme is not outside the negation morpheme, nor can it ever be.

It will be argued in this paper that there is a plausible explanation for the ambiguity in (4), especially the reading in (4b), which avoids violating the Mirror Principle. The account will capitalize on the fact that coercive and permissive causatives are not morphologically differentiated in Turkish, where the causative morphemes *-Dir-* and *-t-* are ambiguous between the *make* and *let* readings.¹ An example of this can be seen in the following.

- (5) *pro* çocukları sıçra-t-tı-m
 1.SG children-ACC jump-CAUSE-PAST-1SG
 a. 'I made the children jump'
 b. 'I let the children jump'

In (5a), the causative morpheme has the coercive, *make* reading, while in (5b), it has the permissive *let* reading. The main thesis of this paper is that the instances where causation appears to take scope over negation are derived by letting negation take scope over the permissive *let* reading of the causative, instead of the coercive *make* reading. Therefore, it will be argued that NEG takes scope over CAUSE in both instances, and that in (4a), it takes scope over the coercive, *make*-type CAUSE, but in (4c), it takes scope over the permissive *let*-type CAUSE. It will also be shown in section 3 that NEG > *let* is truth-functionally equivalent to *make* > NEG.

2 Coercive and Permissive Causatives (and other readings)

Coercive and permissive causatives are semantically differentiated from one another in terms of the extent to which the causer is involved in the causation and how much responsibility it bears in bringing about the caused event.

- (6) The guard **made** the prisoners escape (coercive causative)
(7) The guard **let** the prisoners escape (permissive causative)

2.1 Coercive causatives

Coercive causatives are expressed with the verb *make* in English and with the verb *faire* in French. They are defined by the active involvement of the causer in the realization of the caused event. For example, what qualifies (6) as an instance of coercive causation is that the sentence entails that the guard plays an active role in the causation of the escape event.

One must bear in mind here that whether the causer directly interacts with the causee or merely manipulates the circumstances is not relevant to whether the causation is coercive or not. It is possible that the guard orders the prisoners to escape in (6). It is also possible that the guard contributes to the escape not by directly ordering them, but by making the living circumstances in the jail so intolerable that the prisoners feel compelled to escape. In both cases, the causation is coercive since the guard is the inducing factor in the escape, although the causation is executed in different ways. The way in which interactive (the former reading) and circumstantial (the latter reading) causation interpretations are obtained in the syntax is discussed in Kural (1996).

The discussion in this paper also abstracts away from the cases where there are understood (covert) intermediaries in the causation event, i.e., whether the causation is direct or indirect. For example, a sentence like *The mayor made the prisoners escape* may be used to describe a situation where the mayor of the city orders the director of the penitentiary, who in turn orders the guard, who then orders the prisoners to escape. Unfortunately, the issues regarding how such readings can be generated and what types of structures would produce this type of interpretation cannot be addressed in this particular forum. For a discussion, see Kural (1996).

2.2 Permissive causatives

Permissive causatives are formed with *let* in English, and *laisser* in French. What is characteristic for this type of causation is that the causer is more or less incidental in bringing about the caused event. This can be seen in (7), where it is understood that the guard does not play an active role in the prisoner's escape, but rather, contributes to the escape event simply by facilitating it in some way.

Despite their limited involvement, the causers in the permissive causative construction still have the interactive and circumstantial options, as is the case with coercive causation. In the interactive reading, the guard is likely to have aided the prisoners by handing them the key or helping them plan the escape. In the circumstantial reading, on the other hand, the guard may have cut off the

power at some crucial stage to help the prisoners, or turned a blind eye so as not to interfere with the escape that is taking place at the moment. Note that the last reading requires some explanation. In the common understanding of what causative clauses entail, it is customary to think that the causer must perform some act to actually be causing an event. By contrast, the noninterference reading presupposes complete inaction on the part of the guard/causer. It will become clear in section 5 how and why not interfering with the progress of an event counts as causation.

3 The Duality of Coercion and Permission

Duality is a particular type of relation between two quantificational elements where the inner negation of one quantifier is truth-functionally equivalent to the outer negation of the other. Formally, this relation can be stated as follows.

$$(8) \quad \neg Q_1(x) P(x) = Q_2(x) \neg P(x)$$

In natural languages, duality obtains when there is universal and existential quantification. The best-known cases of dual expressions are shown in (9) through (14) below.

When negation takes scope over the universal quantifier *every x*, as in (9a), it is truth-functionally equivalent to the existential quantifier *some x* taking scope over negation, as in (9b). Conversely, when negation takes scope over the existential *some x*, it is equivalent to the universal *every x* taking scope over negation.²

- (9) a. It seems not to be true that everyone in this room is asleep
b. Someone in this room seems not to be asleep

- (10) a. It seems not to be true that someone in this room is asleep
b. Everyone in this room seems not to be asleep

The adverbials *always* and *sometimes* provide universal and existential quantification over event times, and they also display duality effects. Negation taking scope over the adverbial *always* in (11a) is equivalent to the adverbial *sometimes* taking scope over negation in (11b), and negation taking scope over *sometimes* in (12a) is equivalent to *always* taking scope over negation in (12b).

- (11) a. It is not the case that Bill always understands the question
b. It is sometimes the case that Bill does not understand the question

- (12) a. It is not the case that Bill sometimes understands the question
b. It is always the case that Bill does not understand the question

Adjectival predicates *certain* and *possible* provide universal and existential quantification over epistemically accessible possible worlds, and they display the same type of duality effects observed with *every/some* and *always/sometimes*. In the following examples, where negation takes scope over *certain* in (13a), it is equivalent to *possible* taking scope over negation in (13b), and when negation takes scope over *possible* in (14a), it is equivalent to *certain* taking scope over negation in (14b).

- (13) a. It is not certain that Mary will be the new director
 b. It is possible that Mary will not be the new director
- (14) a. It is not possible that Mary will be the new director
 b. It is certain that Mary will not be the new director

This specific interaction between the dual elements and negation is also observed between the verbs *make* and *let*. Negation takes scope over *make* in (15a), which is truth-functionally equivalent to (15b), where *let* takes scope over negation. Conversely, when negation takes scope over *let* in (16a), it is equivalent to *make* taking scope over negation in (16b).

- (15) a. He did not make the children sleep
 b. He let the children not sleep
- (16) a. He did not let the children sleep
 b. He made the children not sleep

The generalization that emerges in this paradigm is that $NEG > make$ is equal to $let > NEG$, and $NEG > let$ is equal to $make > NEG$. Since this is the same type of relation observed between dual elements, it would be plausible to suggest that there is universal and existential quantification involved with these causative verbs in some way. Specifically, it can be argued on the basis of the paradigm in (15) and (16) that: (a) universal versus existential quantification is a component of coercive and permissive predicates *make* and *let*, and (b) universal versus existential quantification is what distinguishes *make* and *let*.

4 Quantification over Causally Possible Worlds

The adjectives *certain* and *possible* in (13) and (14) above can be defined as predicates that introduce universal and existential quantification over possible worlds that are epistemically accessible.

- (17) a. *certain* P: $\forall w, w$ an epistemically accessible world, P(w), or
certain P: \Box P.
 b. *possible* P: $\exists w, w$ an epistemically accessible world, P(w), or
possible P: \Diamond P.

In the case of *make* and *let*, the universal and existential quantification suggested by the duality facts presumably quantifies over possible worlds that are causally accessible. This would mean that the predicates themselves, i.e., *make* and *let*, are composed of two parts: (a) the base predicate CAUSE, which provides the causal nature of the relation between the causer and the caused event, and (b) universal (*make*) and existential (*let*) quantification over causally accessible possible worlds, which introduces the modality component.

- (18) a. *make* P: CAUSE $\forall w$, w a causally accessible world, P(w).
 b. *let* P: CAUSE $\exists w$, w a causally accessible world, P(w).

The formulation in (18) can be restated as in (19), using \Box_C and \Diamond_C , which are the causal equivalents of the necessity and possibility operators \Box and \Diamond .

- (19) a. *make* P: CAUSE \Box_C P
 b. *let* P: CAUSE \Diamond_C P

This formulation allows the dual behavior of *make* and *let* to be reduced to the duality of necessity (\Box) and possibility (\Diamond) operators, which is a result of the duality of the universal and existential quantifiers \forall and \exists . The observation regarding the dual relation between *make* and *let* is given in (20).

- (20) a. NEG > *make* = *let* > NEG
 b. NEG > *let* = *make* > NEG

Based on the equivalence in (19), the observation in (20) can be reformulated as in (21) by replacing *make* P with CAUSE \Box_C P and *let* P with CAUSE \Diamond_C P.

- (21) a. \neg CAUSE \Box_C P = CAUSE \Diamond_C \neg P
 b. \neg CAUSE \Diamond_C P = CAUSE \Box_C \neg P

The causative component CAUSE does not contain any modal base, and it does not contribute to the duality between *make* and *let*, which is solely due to the universal and existential quantification, and how they interact with negation. It can, therefore, be safely removed from (21) without altering the equivalence.

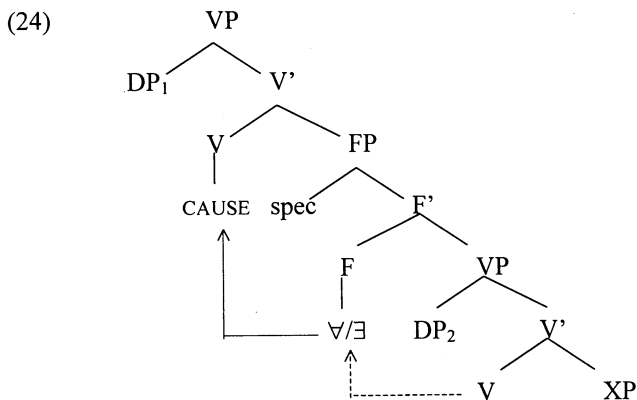
- (22) a. $\neg\Box$ P = \Diamond \neg P
 b. $\neg\Diamond$ P = \Box \neg P

Finally, since the necessity and possibility operators are derived by letting *every* and *some* quantify over possible worlds, the equivalence of (22) can safely be treated as an extension of the duality of *every* and *some*.

- (23) a. $\neg\forall(x) P(x) = \exists(x) \neg P(x)$
 b. $\neg\exists(x) P(x) = \forall(x) \neg P(x)$

Once *make* and *let* are viewed as having two components, it becomes an issue how they are put together as a single lexical item in the syntax. There are a number of ways to achieve this. One is to assume that *make* and *let* are stored as full-formed lexical items in their own right, and that the equivalences given in (18) or (19) are simply meaning postulates in the sense of Dowty (1979). That is, when the meaning of *make* or *let* needs to be decided, the speakers retrieve this information from the lexicon.

There is, however, a more syntactic option that we will pursue here, which is to produce the modality-inducing element, i.e., the universal or existential quantification, as a functional head that combines with the predicate CAUSE in the syntax. The maximal projection of this functional head, FP, is generated as the complement of CAUSE.³ The head F incorporates into CAUSE in the syntax to form the predicates *make* and *let*. In this view, *make* is inserted whenever the head that provides the universal quantification over causally possible worlds, say \forall , incorporates into CAUSE, and *let* is inserted whenever \exists incorporates into CAUSE.



In languages like Turkish, where there is no overt morphological distinction between the coercive and permissive forms, the incorporation of \forall or \exists has no visible morphological effect.

5 Coda

5.1 The Noninterfering Causer Problem

Recall the inactive guard problem from the discussion in section 2 where the subject of permissive causation maintains its status as a causer even when it is not actively engaged in bringing about any event. In (7) for example, the guard may not be doing anything with respect to the escape that is taking place, but his failure to interfere with the escape would still be considered letting the prisoners escape, which essentially means he is causing the prisoners to escape.

(7) The guard let the prisoners escape

The reason that inaction counts as causation with permissives is that they contain existential quantification over causally accessible possible worlds. Once the prisoners' escape is under way, there is already a possible world in which *the prisoners escape* holds true. By not interfering in a manner that makes sure all causally possible worlds are such that *the prisoners escape* does not hold true, i.e., by not effectively stopping the escape, the guard ensures that there will continue to be a causally possible world in which *the prisoners escape* holds true. And it is in this respect that noninterference is compatible with (permissive) causation.

5.2 The Mirror Principle Problem

The main problem that was stated in the beginning is the apparent mismatch between the morphological position of the causation and negation morphemes and the ability of the inside element CAUSE to take wide scope over NEG, which is more to the outside. It is clear that the interpretation indicated in (4b) is correct, but one can argue that it is misleading in the way Göksel (1993) presupposes that Turkish causatives are always coercive, which is not true.

- (4) *pro* Emine'yi bugün çalış-tır-ma-dı-m
 1.SG E.-ACC today work-CAUSE-NEG-PAST-1SG
 a. 'I didn't make Emine work today' (NEG > CAUSE)
 b. 'I made Emine not work today' (CAUSE > NEG)

As mentioned in the introduction, causative morphemes in Turkish are ambiguous between the coercive reading in (5a) and the permissive reading in (5b).

- (5) *pro* çocukları sıçra-t-tı-m
 1.SG children-ACC jump-CAUSE-PAST-1SG
 a. 'I made the children jump'
 b. 'I let the children jump'

Although the coercive and permissive forms are not distinguished overtly in Turkish, they are kept semantically distinct. Therefore, one can plausibly assume that the coercive reading is the result of having CAUSE_C in the structure and permissive reading is due to CAUSE_P. The reading in (4a) is derived by having negation take scope over the coercive causation, i.e., NEG > CAUSE_C. In (4b), on the other hand, the scope reading is the result of negation taking scope over the permissive causation, i.e., NEG > CAUSE_P. By virtue of the dual nature of CAUSE_P and CAUSE_C, this latter reading is also equivalent to coercive causation taking scope over negation, i.e., CAUSE_C > NEG, which is what (4b) presents. However, a more accurate reading for (4), and especially (4b), that takes the modal nature of causatives into account would be as follows:

- (25) *pro* Emine'yi bugün çalış-tır-ma-dı-m
 1.SG E.-ACC today work-CAUSE-NEG-PAST-1SG
 a. 'I didn't make Emine work today' (NEG > CAUSE_C)
 b. 'I didn't let Emine work today' (NEG > CAUSE_P)

Negation takes wide scope over causation in both readings (25a) and (25b), which crucially satisfies the Mirror Principle.

Notes:

* I would like to thank Ed Stabler, Tim Stowell, Anna Szabolcsi, and the audiences at UCLA and UC Berkeley for their comments and suggestions.

¹The distribution of the causative morphemes *-t-* and *-Dir-* is phonologically determined: *-t-* appears after vowels and /t/, and *-Dir-* appears elsewhere. There are also some lexicalized forms that need not concern us here.

²The truth-functional equivalence of the sentences with duals, such as (9a) and (9b), means that they are capable of describing the same type of situation. It does not mean that the two sentences are interchangeable. Quite often, there are some subtle differences between the sentences such that speakers would prefer one or the other based on discourse considerations.

³The causative component CAUSE must be taking the quantificational/modal component FP as its complement since it takes scope over the FP. Note that *let* P means 'cause some causally possible world to be such that P holds in that world', rather than 'in some causally possible world, cause P holds'. In order to 'cause some causally possible world to be such that P holds in that world', one must

actually be engaged in the causing event, just as one must be engaged in the letting event in order to 'let go P'. By contrast, when the modality takes scope over the causation, as in 'in some causally possible world, cause P', the act of causation itself is merely a possibility and may not have taken place.

References:

- Baker, Mark. 1985. The Mirror Principle and Morphosyntactic Explanation. *Linguistic Inquiry* 16, 373-415.
- Dowty, David. 1979. *Word Meaning and Montague Grammar*. Reidel. Dordrecht.
- Göksel, Aslı. 1993. *Levels of Representation and Argument Structure in Turkish*. Doctoral dissertation, School of Oriental and African Studies, University of London.
- Kural, Murat. 1996. *Verb Incorporation and Elementary Predicates*. Doctoral dissertation. University of California, Los Angeles.