

Valence and the Semantics of Causativization

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1. Introduction

Cross-theoretically it is often assumed that causativization is a valence increasing operation: the valence of a base predicate is augmented by the addition of a causer argument which functions as the SUBJECT of the causative predicate. Finnish exemplifies this pattern as seen in the contrast between the base transitive 'build' in (1a) and the causative 'make build' in (1b). (from Volodin et. al. 1969¹)

(1a) Muurarit rakensivat talon
masons-NOM built house-ACC
THE MASONS BUILT THE HOUSE

(1b) Minä rakennutin talon muurareilla
I-NOM build-CAUS-1SG-PAST house-ACC mason-ADD
I MADE THE MASONS BUILD THE HOUSE

(1a) contains the simple transitive predicate 'build' with the nominal 'masons' functioning as SUBJ. In contrast, (1b) contains the causativized form of 'build': this predicate has three argument slots, one of which functions as a new causer SUBJ, namely, the pronoun 'I', while 'masons' becomes an OBL CAUSEE.

Despite the frequency with which a causative marker is associated with an increase in valence, this does not always occur. For example, T. Mohanan (1991) and Saksena (1982), among others, have observed that causativization is not necessarily associated with a valence increase in Hindi. The pair of Hindi sentences in (2), adapted from T. Mohanan 1991, provides an illustration. In (2a) a base non-causative predicate is accompanied by two arguments: the nominal 'child' is construable as an EXPERIENCER and serves as the SUBJ, while the nominal 'dog' is a STIMULUS encoded as an instrumental OBL. In contrast, (2b) contains the causative variant of the predicate in (2a). Here too the causative predicate takes two arguments: the 'dog', to quote T. Mohanan 1991:46 'is both the causer and the source of fear', while the nominal 'boy' is an OBJ marked with DAT-ACC case.

(2a) baccaa kutte-se dartaa hai
child-EXP/NOM dog-SOURCE/INST fear-HAB be-PRESENT
THE CHILD FEARS THE DOG

(2b) kuttaa bacce-ko ɖaraataa hai
dog-CAUSER/SOURCE/NOM boy-DAT-ACC fear-CAUS-HAB be-PRESENT
THE DOG FRIGHTENED THE BOY

In the present paper we examine several different instances of causativization which do not involve an increase in valence. The central and simple point we wish to make is this: given the traditional interpretation of valence as the number of argument slots associated with a predicate, an optimal account of causative formation should permit the separation of valence from the semantic entailments of the causative predicate in much the way that the interaction between different types

of information is analogized to different autosegmental tiers as in T. Mohanan's version of LFG mapping theory.² In this spirit we show how a Dowty type proto-role proposal for causatives, which we have formulated elsewhere for instances of valence increase, extends to instances without valence increase.

First we will provide an overview of Dowty's proto-role proposal and then we will introduce an account of causatives based on Dowty involving instances of valence increase. Finally we examine three instances of causativization without valence increase, but which are predicted to occur, given our analysis of the more familiar pattern with valence increase.

2. Proto-Properties and Valence

Dowty (1991) develops a proto-role view of the relation between arguments of a predicate and their grammatical function status. Under this view, semantic roles such as 'agent' and 'patient' are not atomic, but rather are comprised of a set of proto-properties. On Dowty's analysis these properties are hypothesized to be entailments which follow from the semantics of the predicate. He proposes the following suggestive lists of proto-agent and proto-patient properties:

Proto-Agent Properties

- volitional involvement in event or state
- sentience
- causing an event or change of state
- movement (relative to position of another participant)
- exists independently of the event

Proto-Patient Properties

- undergoes change of state
- incremental theme
- causally affected
- stationary (relative to another participant)
- does not exist independently of the event, or not at all

The basic idea is that prototypical agents possess the largest number of proto-agent properties, while prototypical patients possess the largest number of proto-patient properties. Constellations of proto-properties determine the grammatical relation status for valence positions of the predicate. Consider how function assignments would be calculated for the Finnish predicate 'build' employed in sentence (4a):

(4a) Pekka rakensi talon
Pekka-NOM build-3SG-PAST house-ACC
 PEKKA BUILT THE HOUSE

(4b)	Pekka:	volitional involvement (proto-A) sentience (proto-A) causing a change of state (proto-A) movement relative to the table (proto-A) exists independently (proto-A)
	the house:	undergoes change of state (proto-P) incremental theme (proto-P) causally affected (proto-P) stationary relative to John (proto-P) lack of independent existence (proto-P)

According to Dowty's approach, the predicate 'build' entails the proto-properties in (4b); these entailments derive their respective proto-typical agentivity and patienthood. Thus, Pekka is proto-typically agentive; his involvement in the event is volitional, he is sentient, he causes a change of state, he moves, and he exists independent of the event. The house, on the other hand is a proto-typical patient: it undergoes a change of state, it is an incremental theme (in that its change is effected in discrete stages), it is causally affected, it is stationary with respect to Pekka, and its existence is contingent on the building event.

Given these entailment sets of proto-roles, Dowty (1991:576) suggests the Argument Selection Principle in (5):

- (5) In predicates with grammatical subject and object, the argument for which the predicate entails the greatest number of Proto-Agent properties will be lexicalized as the subject of the predicate; the argument having the greatest number of Proto-Patient entailments will be lexicalized as the direct object.

Thus, since the example in (4a) has a SUBJ and an OBJ, the SUBJ corresponds to the argument with the most proto-agent entailments, while the OBJ bears the most proto-patient properties.

It is important to note that the proto-agent and proto-patient properties in (4) cluster around distinct arguments or valence slots: that is, there is one argument that exclusively possesses proto-agent properties and another that possesses only proto-patient properties. However, there is nothing in Dowty's approach that requires a predicate with proto-agent and proto-patient properties to have both a SUBJ and an OBJ. The Argument Selection Principle in (5) only applies when the clause has a SUBJ and an OBJ. For example, in (6a), the single argument of the Finnish predicate *punastua* 'blush, flush' bears both proto-agent and proto-patient properties, as schematized in (6b):

- (6a) Pekka punastui
Pekka-NOM blush-3SG/PAST
 PEKKA BLUSHED

- (6b) Pekka: sentient (proto-A)
 independent existence (proto-A)
 change of state (proto-P)
 causally affected (proto-P)

Examples like (6) show that a predicate may entail both proto-agent and proto-patient properties, yet not have two independent arguments. From this fact, the generalization in (7) appears to be a necessary consequence of Dowty's approach to argument selection:

- (7) Valence and proto-properties are independent notions.

In other words, it is reasonable to assume that both the proto-property entailments and the specification of valence must be lexical properties associated with the lexical representations of these predicates. This is illustrated schematically for the Finnish predicates 'build' in (8) and 'blush' in (9), where the following

abbreviatory conventions obtain: PP refers to sets of proto-properties, ARG is a variable for valence slots and GF refers to grammatical functions associated with particular valence slots.

(8) PP:	<ul style="list-style-type: none"> •volitional involvement •sentience •causing a change of state •movement relative to other participant •independent existence 	<ul style="list-style-type: none"> •undergoes change of state •incremental theme •causally affected •stationary relative to other participant •lack of independent existence
	rakentaa <ARG1, SUBJ	ARG2> OBJ
GF:		

(9) PP:	<ul style="list-style-type: none"> •sentient •independent existence •change of state •causally affected
	punastua < ARG1 > SUBJ
GF:	

(8) illustrates that the predicate 'build' projects pure proto-agent and proto-patient entailment sets and that each entailment set is aligned with a distinct valence slot. Moreover, each such alignment is associated with a function assignment. (9) illustrates that 'blush' projects an entailment set that represents an admixture of proto-agent and proto-patient properties and that this set is associated with the only valence slot (and grammatical function) of the predicate.

We turn now to a description of how these assumptions can be adapted for an analysis of causatives.

3. A Proto-Role Account of Causative Formation

Elsewhere (Ackerman & Moore 1993) we have developed an interpretation of Dowty's proto-role proposal designed to address two well-known and prevalent effects associated with valence increasing causative formation operations: one is the encoding of the causee as predicted by the transitivity of the base predicate and the other is the semantics associated with alternative function encoding for the causee. For present purposes it is only possible to illustrate how our proposal addresses what we'll call the *transitivity effect*. Consider the following examples of causativization from Finnish: (10a) contains the intransitive base predicate 'cough' and (10b) its related causative, while (11a) contains the transitive base predicate 'build' and (11b) its related causative form.

(10a)	Hän yski	koko yön
	<i>s/he cough-3SG/PAST</i>	<i>whole night</i>
	S/HE COUGHED THE WHOLE NIGHT	

- (10b) Kylmä pakkasilma yski-tti häntä
cold frosty weather cough-CAUS-3SG/PAST him/her-ACC
 THE COLD FROSTY WEATHER MADE THE HIM/HER COUGH
- (11a) Muurarit rakensivat talon
masons-NOM built building-ACC
 MASONS BUILT THE BUILDING
- (11b) Minä rakennutin talon muurareilla
I-NOM built-CAUS building-ACC mason-ADD
 I MADE/HAD MASONS BUILD THE BUILDING

As can be seen, the causative marker correlates with an increase in valence with respect to the base predicate. Given these data, we might propose that causativization is a morphological process that involves adding an argument slot to the valence of the base predicate, as well as adding whatever proto-properties are entailed by the semantics of causation. Minimally, we could assume that the Finnish causative predicate entails that this new argument bears the proto-agent property of causing an event: the event is denoted by the base predicate. Thus, the causative morpheme might be thought of as taking a 'CAUSER' and an 'EVENT' argument, as illustrated in (12):

- (12) PP: causing an event
 [...causer...]
 |
 CAUSE < ARG1 (PRED < >)EVENT >
 |
 GF: SUBJ

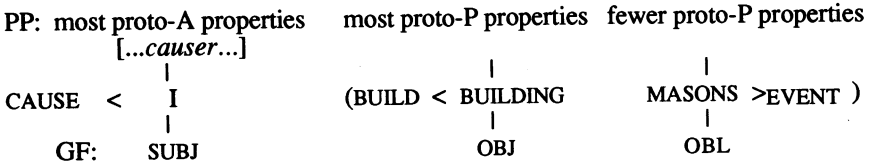
(13) and (14) show the manner in which this general schema is instantiated to yield the transitivity effect typified by Finnish wherein the SUBJ of a base intransitive is an OBJ CAUSEE and the SUBJ of a base transitive is an OBL CAUSEE in the addressive case. In (13) and (14) we have replaced the variables for PRED and ARG with the relevant values from (10) and (11) to make the relations clear.

(13) Intransitive base predicate

- PP: most proto-A properties most proto-P properties
 [...causer...]
 | |
 CAUSE < WEATHER (COUGH < HIM/HER >)EVENT >
 | |
 GF: SUBJ OBJ

In (13) the function assignments follow straightforwardly from the Argument Selection Principle: the argument with the most proto-agent properties is lexicalized as SUBJ and the argument with the most proto-patient properties is lexicalized as OBJ. This principle applies in similar fashion for the causativization of transitive base predicates shown in (14):

(14) Transitive base predicate



However, in this instance the encoding of the CAUSEE as an OBL follows from what Dowty refers to as Corollary 2 of the Argument Selection Principle, which is stated in (15):

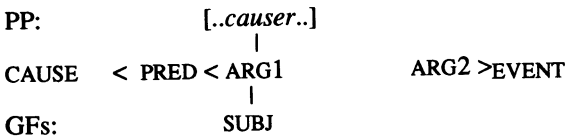
- (15) With a three-place predicate, the non-subject argument having the greater number of proto-patient properties will be lexicalized as the direct object and the non-subject argument having fewer proto-patient properties will be lexicalized as an oblique or prepositional object.

Now, while it is clear that the entity with the most proto-agent properties, i.e. the causer, corresponds in all of these instances to a distinct argument, we have seen previously that proto-properties and valence are independent notions. This observation in conjunction with the assumption that *causing an event or state* is an entailment of causatives, leads to the expectation that other instances of causative formation might be found which resemble the one schematized in (12) in that they too would possess a causer, but they would differ from the one in (12) in not exhibiting a valence increase. In other words, an invariant entailment set for causatives - (limiting discussion here to the proto-agent property of *causing an event or state*) - need not, in principle, correlate with valence increase. In the remainder of this paper we discuss three logical options for causative formation without valence increase and demonstrate that they are attested in Malayalam and Finnish.

4. Valence Preservation: the causer is the EXPERIENCER of the base verb

The first pattern of alignment between the entailed *causer* property and valence is represented schematically below in (16), where ARG1 of the base predicate is the *causer*:

(16) Pattern 1:



In this pattern the *causer* entailment is associated with the SUBJ argument of the base predicate. Pattern 1 is typified by Malayalam in (17), as observed in T. Mohanan 1991: (examples adapted from Mohanan 1991:43)

- (29) nyt pyryttää
now snowstorm-CAUS-3SG/PRESENT (Hakulinen 1946:241)
 THERE'S A DRIVING SNOWSTORM NOW

As with the impersonal causatives, there is no identifiable external causer in (29). The impersonal uses of the psychological and state predicates differ from personal uses of these predicates in that the impersonal uses convey the 'compulsion' reading with no identifiable external causer, whereas this sense is absent from the personal uses. This contrast becomes evident when we compare the two uses of 'sneeze' in (30a) and (30b): (examples from Holman (1984:25)

- (30a) mustapippuri aivastuttaa minua
black pepper-NOM sneeze-CAUS-3SG/PRESENT I-PART
 BLACK PEPPER MAKES ME SNEEZE

- (30b) minua aivastuttaa
I-PART sneeze-CAUS-3SG/PRESENT
 I FEEL LIKE SNEEZING

(30a) is a personal causative containing a surface SUBJ: 'black pepper' is interpretable as the CAUSER and there is no construal of a sudden inexplicable impulse that overcomes the EXPERIENCER. In (30b) there is no SUBJ, but there is the 'compulsion' reading.

Finally, whereas the SUBJ/OBJ reversal of Pattern 2 seems motivated, as discussed previously, for psych-predicates, there is no similar motivation for limiting a syntactically unexpressed CAUSER entailment of the impersonal type exemplified by Pattern 3. In particular, we would expect to find that this pattern extends beyond the class of psychological and physical state predicates. That this is so can be seen by the pair of causatives in (31) taken from Sulkala & Karjalainen (1992:295). (31a) contains the expected pattern for the causativized transitive predicate *kirjoittaa* 'write': the causee is expressed by an argument in the ADESSIVE case (see the examples in (1) for relevant discussion). In contrast, (31b) contains the impersonal use of this causativized predicate: in this instance the OBJ argument is the EXPERIENCER and this construction both formally and semantically resembles the expressions in (28a) and (28b).⁴

- (31a) Pauli kirjoituttaa Harrilla kirjeen
Pauli write-CAUS-3SG Harry-AD letter-ACC
 PAULI IS MAKING HARRY WRITE THE LETTER

- (31b) Harria kirjoituttaa nyt kovasti
Harry-PART write-CAUS-3SG now hard
 HARRY WANTS VERY MUCH TO WRITE NOW

In summary, the impersonal uses of the causative construction all possess an interpretation for the causer, but do not associate this entailment with a syntactic argument. In effect the causative predicate entails a causer, but this entailment is not identifiable with a valence slot. In this sense, these Finnish impersonal constructions appear to exemplify pattern 3.

7. Conclusion

In conclusion, we hope to have shown here on the basis of data from Hindi, Malayalam, and Finnish that there is empirical motivation for theories of causativization to distinguish between the semantics of causation and valence. The causer entailment associated with the causative predicate is (1) associable with a new argument, correlative with valence increase, (2) with either argument of certain base predicates (typically those having STIMULUS and EXPERIENCER arguments), or (3) with no syntactically expressed argument. Given these distributions an approach based on Dowty's proto-role proposal possesses the right ingredients and insights to address a fuller display of causative patterns than is ordinarily considered.

NOTES

¹ We have in several instances employed examples from the Russian article cited in the text: we have done so since this work significantly antedates our own and deserves recognition. Because the Russian work is not written by native speakers of Finnish, we have checked all of the relevant examples with native speakers. We thank Helena Halmari and a network of native Finns in Los Angeles for their assistance in this regard. We would also like to thank Paul Kiparksy for data and insights regarding other aspects of this proposal. We bear sole responsibility for whatever may be wrong.

² For analogous notions see Sadock 1991 on autosegmental syntax or Yip et al. 1987 and Maling 1993 on the Case-Tier Hypothesis.

³ This pattern of causativization can also be found in Berber as found in Alalou & Farrell in press.

⁴ The extension of this class of predicates is presently under investigation. At this time it seems to encompass so-called Unspecified Object Deletion Predicates and various intransitive activity predicates.

REFERENCES

- Ackerman, Farrell., and Moore, John. 1993. Semantic contrasts and relational alternations: Evidence from causatives. ms., UC San Diego.
- Alilou, A. and Farrell, P. In press. Argument structure and causativization in Berber. *Journal of African Linguistics*.
- Croft, William. 1991. *Syntactic Categories and Grammatical Relations*. University of Chicago Press.
- Dowty, David. 1991. Thematic proto-roles and argument selection. *Language* 67:547-619.
- Fillmore, Charles. J. 1977. The case for case re-opened. *Syntax and Semantics 8: Grammatical Relations*. ed. Peter Cole and Jerrold Sadock, 59-82. Academic Press.
- Foley, William. and Van Valin, Robert. 1984. *Functional Syntax and Universal Grammar*. Cambridge University Press.
- Hakulinen, L. 1946. *Suomen Kielen Rakenne ja Kehitys*. Otava.
- Holman, E. 1984. *Handbook of Finnish Verbs*. Suomalaisen Kirjallisuuden Seura.

- Hopper, Paul. and Thompson, Sandra. 1980. Transitivity in discourse and grammar. *Language* 56:251-299.
- Keenan, Edward. 1976. Towards a universal definition of 'subject'. In Charles N. Li (Ed.) *Subject and Topic* 303-334. Academic Press.
- Leiwo, M. 1977. About emotive expressions in Finnish. In Denis Sinor (Ed.) *Studies in Finno-Ugric Linguistics: In Honor of Alo Raun*. 144-154. Indiana University Uralic and Altaic Series Vol. 131.
- Maling, J. 1993. Of nominative and accusative case: The hierarchical assignment of grammatical case in Finnish. In Anders Holmberg and Urpo Nikanne (Eds.) *Case and Other Functional Categories in Finnish Syntax*. 49-74.
- Mohanan, T. 1991. Arguments in Hindi. Doctoral Dissertation, Stanford University.
- Pinker, Steven. 1989. *Language and Cognition*. Bradford Books/MIT Press.
- Sadock, Jerrold. 1991. *Autolexical Syntax: A theory of parallel grammatical representations*. University of Chicago Press.
- Schot-Saikku, P. 1993. What makes Finnish Different. Remarks on a sentence type theory of Finnish. In Anders Holmberg and Urpo Nikanne (Eds.) *Case and Other Functional Categories in Finnish Syntax*. 207-224. Mouton de Gruyter.
- Sulkala, H. and Karjalainen, M. 1992. *Finnish*. Routledge Descriptive Grammar Series.
- Talmy, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. In Timothy Shopen (Ed.), *Language Typology and Syntactic Description*. 57-149. Cambridge University Press.
- Van Valin, Robert. 1991. A synopsis of Role and Reference Grammar. In Robert Van Valin (Ed.), *Advances in Role and Reference Grammar*. John Benjamins.
- Van Valin, Robert. 1992. Generalized semantic roles, argument selection and the syntax-semantics interface. ms., University of Buffalo.
- Volodin, A. P. et. al. 1969. Antikauzativy i kauzativy konstruksii v finskom jazyke. In A. A. Xolodovich (Ed.), *Tipologia Kauzativnyx Konstruksii*. 221-237. Nauka, Moscow.
- Vilkuna, M. 1989. Free Word Order in Finnish. *Suomaliasen Kirjallisuuden Seura*.
- Yip, Moira. et. al. 1987. Case in tiers. *Language* 63:217-250.