ON SOCIATIVE CAUSATION[1]

1. Introduction

The goal of this paper is to achieve a better understanding of one phenomenon from the realm of causativization. This phenomenon, known as **sociative causation**, is illustrated in (1) from Cavineña (Guillaume & Rose 2010 citing Guillaume 2008):

(1)   E-ra-tu   ara-kere-chine   torta   Don Fransisco.
       1SG-ERG-3SG   eat-CAUS.SOC-REC.PAST   cake   Mr. Francisco
       'I had Mr. Francisco eat a cake with me'

Semantically, sociative causatives, as Guillaume and Rose indicate (p.384), involve the causer who does not only make "the causee do an action, but also participates in it, which is usually paraphrased with sentences like *make someone do something by doing it with them* or *help someone do something*". In (1), specifically, where sociative causation is morphologically marked by the *kere* morpheme, both the causer (the speaker) and the causee (Mr. Francisco) are involved in eating a cake.

Sociative causation, also known as **causation with involved causee** (Dixon 2000:73), has been attested in a variety of languages and most extensively discussed by Shibatani & Pardeshi (2002), S&P henceforth. S&P argue that this type of causation comes in three varieties illustrated in (2)-(4) from Marathi:

(2)   Sociative causative, joint action
       shaam-ne   raam-laa   don   kilomiTar   paL-aw-l-a
       Sham-ERG   Ram-DAT   two   kilometer   run-CAUS-PERF-N
       'Sham made Ram run two kilometers (and ran with him).'

(3)   Sociative causative; assistive
       shaam-ne   raam-kaDun   patra   lih-aw-l-a
       Sham-ERG   Ram-by   letter.N   write-CAUS-PERF-N
       'Sham had Ram write a letter (and helped him out).'

(4)   Sociative causative; supervision
       mi   raam-kaDun   kholi   saaph   kar-aw-l-i
       I   Ram-by   room.F   clean   do-CAUS-PERF-F
       'I had Ram clean the room (and I was looking after his work).'

(2)-(4) instantiate what S&P call 'joint-action', 'assistive' and 'supervision' varieties of sociative causation. (The corresponding meaning components appear in parentheses.) In (2), the causer performs the same running action as the causee. In (3)-(4), on the other hand, the causer does not have to clean or write. (4) is most naturally understood as involving the causer who supervises cleaning. In (3), the causer helps the causee to write, e.g. by dictating the letter.

According to S&P, what (2)-(4) have in common and what makes a cover category 'sociative causation' empirically real is the fact the causer must accompany causee in the execution of the caused event.

A crucial issue a theory of causativization has to address is the place of sociative causation within the wider spectrum of causativization phenomena. Specifically, what are similarities and differences between sociative causatives like (2)-(4) and two other major types of causatives attested in natural languages, **direct**, or immediate, and **non-direct** ones? S&P 2002 and the subsequent literature suggest that sociative causation is "an intermediate category between direct and indirect causation", the category that shares properties of both.

In what follows, I will argue that this view requires substantial adjustments. Relying on evidence from Tatar, a Turkic language spoken in Central Russia, I propose that sociative causation reduces to the **incremental relation** between causing and caused subevents. Furthermore, I suggest that if notions of direct and non-direct causation are properly refined, there are no serious empirical reasons to treat sociative causation as "intermediate". What we need is, rather, a system with two elements, 'direct' and 'non-direct' (= 'not necessarily indirect') causation, each of which can be strengthen by the additional requirement that the two eventualities are incrementally related.

The rest of this paper is organized as follows. In Section 2, I present basic observations about causativization patterns available in Tatar, with special attention to what is identified as 'fake causativization'. 'Fake causativization' obtains if two instances of causative morphology only contribute one causing subevent. However, a closer examination at the beginning of Section 3 reveals that "fake" instances of causative morphology are not entirely vacuous: they exhibit a bunch of properties that characterize sociative causatives in languages like Marathi in (2)-(4). After a brief discussion of possible way of thinking about this phenomenon, Section 3 approaches the central thesis of this article: the sociative meaning obtains when a causal relation between two eventualities is incremental. After defining the incremental relation in terms of a one-to-one mapping from the set of parts of an eventuality onto the set of temporally co-extensive parts of another eventuality, I conclude Section 3 with a few additional empirical facts that support the incrementality view. In Section 4 I pursue a few related goals. First, I present a set of assumptions about the basic distinction between direct and non-direct causation and propose to reduce it, essentially, to the universal vs. existential quantification over the elements of a causal chain. Second, I introduce Radical Predicate Decomposition, a theory of syntactically represented event structure that provides me with a type of configuration necessary for building up a morphosyntactic part of the proposal. Third, I show how the sociative causative fits into this configuration, spell-out the incrementality theory (IncT) of sociative causativization and provide the reader with an example derivation. The remainder of the paper is fully devoted to comparing predictions of IncT and the "causative continuum" theory developed in S&P and related work by Masayoshi Shibatani and his colleagues. Section 5.1 examines semantic predictions of both proposals, with the conclusion that IncT successfully accounts for the whole range of phenomena dealt with under the causative continuum view, but requires a smaller amount of stipulations. Section 5.2 addresses spell-out patterns of sociative causative structures and identifies two types of languages that may be problematic for S&P, but are successfully dealt with by IncT. Section 5.3 aims at double-checking whether any substantial empirical generalizations achieved by S&P can be lost by abandoning the "causative continuum". Main findings of the paper are summarized in the Conclusion.

2. Causatives in Tatar

So far, Turkic languages have not been listed among the languages endowed with morphosyntactic devices for expressing sociative causation. In this section, which builds on and extends Lyutikova, Tatevosov 2018, I begin with examining data from Tatar. I establish that it possesses the type of causative that resemble paradigmatic examples of sociative causation in all relevant respects.

The causative construction in Tatar I am interested in is represented in (5):

(5) trEnEr marat-ne jEgEr-t-tEr-dE.[2]
   trainer M.-ACC   run-CAUS-CAUS-PST
   'The trainer made Marat run.'

Morphologically, (5) involves two causative morphemes in combination with the unergative verb 'run', shown in (6).

(6) marat jEgEr-dE.
   M. run-PST
   'Marat ran.'

Syntactically, (5) is a transitive clause where the causer appears in the nominative, and the causee, the argument of the non-derived verb stem, receives the accusative case marking. What is remarkable about (5) is that one of the two occurrences of the causative morpheme (TYR henceforth) makes no visible contribution to the structure and interpretation of the clause. The unergative verb in (6) gets effectively causativized by exactly one instance of TYR, as shown in (7):

(7) trEnEr marat-ne jEgEr-t-tE.
   trainer M.-ACC   run-CAUS-PST
   'The trainer made Marat run.'

Further causativization of (7) should lead to a configuration where one more causer argument and one more causing subevent are introduced. In (5), however, this does not happen, so we are dealing with what is dubbed as **fake causativization** in Lyutikova and Tatevosov 2017.

The next relevant fact is: causativization of the morphological type exemplified in (5) can but does not have to be fake. (5) is not the only morphosyntactic configuration where the morphological form *jEgEr-t-tEr,* the one containing two causative morphemes, can occur. It is also available in a configuration that shows a better match between causative morphology and causative semantics. In (8), one finds three DPs, two causers and one runner, corresponding to three subevents (running, causing of running, and causing of causing of running):

(8) trEnEr kErIm-dAn marat-ne jEgEr-t-tEr-dE.
   trainer K.-ABL   M.-ACC   run-CAUS-CAUS-PST
   'The trainer made Kerim make Marat run.'

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[2] The causative morpheme TYR appears in two variants, *-t-* and *-ter-*. Their distribution is conditioned phonologically: the *-t-* allomorph appears after sonorants in multisyllabic stems, *-ter-* is used elsewhere.

In what follows, I will be calling causatives like (7), (8), and (5) **single causatives, double causatives** and **fake causatives**, respectively.

Single causatives and double causatives look exactly as one would expect. Every occurrence of the causative morpheme corresponds to a causing subevent and its participant. Let us assume, for the moment, with Bhatt & Embick 2003, Lidz 2004, Harley 2008, Miyagawa 2012 and many others that the causative morpheme merges as the *v* head, and its argument is projected in the spec, *v*P position. The single causative and double causative constructions in (7) and (8) would then be assigned the structures in (9) and (10), respectively.

(9)　　[*v*P　trEnEr　-t-　　[*v*P　marat jEgEr-]]

(10)　　[*v*P　trEnEr　-tEr-　[*v*P　kErImdAn -t-　　[*v*P　maratne jEgEr-]]]

The fake causative shows a mismatch between the number of syntactically projected arguments and the number of the causative morphemes, and this fact requires explanation. Below I present observations suggesting that fake causatives feature a single causative morphosyntax in (9), but, unlike single causatives, involve, crucially, sociative causation.

If morphology is taken at its face value, a tempting line of reasoning is as follows. Whenever two causative morphemes enter the derivation, they bring in everything they are supposed to. Fake causatives are thus double causatives; (5) and (8) are essentially the same configuration, the only difference being that the intermediate causer argument *kErIm-dAn* in (8) corresponds to some or other type of phonologically silent element in (5). The structure of (5) represented in (11) is essentially (10) with this minimal adjustment:

(11)　　[*v*P trEnEr -tEr- [*v*P ∅ -t- [*v*P maratne jEgEr]]

With (11), one would expect the fake causative in (5) to mean (12), where the exact identity of the causee depends on how the null element in (11) is construed[3].

(12)　　The trainer caused some entity to make Marat run.

A slightly different analysis in the same spirit rely on Pylkkänen's (2002) idea that a causing subevent and its participant can be associated with two distinct pieces of functional structure, call them *v* and Voice. In such a system, the structure of the single and double causatives may look as shown in (13)-(14):

(13)　　[VoiceP trEnEr [*v*P -t- [VoiceP maratne jEgEr-]]]

(14)　　[VoiceP trEnEr [*v*P -tEr- [VoiceP kErImdAn [*v*P -t- [VoiceP maratne jEgEr-]]]]]

The fake causative would then be analyzable as in (15), where the outer *v* merges with the lower *v*P instead of VoiceP:

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[3] For example, if ∅ in (7) is identified with PRO, the fake causative configuration starts looking like a control configuration in (i). The predicted maening of (i) would be 'The trainer made himself make Marat run'.

(i)　　[*v*P trEnEr ₁ -tEr- [*v*P PRO₁ -t- [*v*P marat jEgEr]]

(15) $[_{\text{VoiceP}}$ **trEnEr** $[_{v\text{P}}$ **-tEr-** $[_{v\text{P}}$ **-t-** $[_{\text{VoiceP}}$ **maratne jEgEr-** $]]$

In the semantics of (15), there are two causing subevents, each associated with TYR, but one causer, projected in the spec of the outer VoiceP. Informal paraphrase of the predicted meaning of the fake causative then looks like (16):

(16)   The trainer brought about a situation that caused Marat run.

The main problem with both (11) and (15) is what they predict about the semantic distribution of the three types of causative. On both analyses, the causal chain associated with the fake causative which connects the trainer's activity and Marat's running must consist of at least three events. The trainer's activity e brings about an event e' (with a phonologically silent argument, (11), or with no argument at all, (15)), and e' makes Marat run. This makes the fake causative similar to the double causative not just syntactically, but also event-structurally. In the representation of the single causative in (7), on the other hand, there would be no e': trainer's action and Marat's running are directly connected by the cause relation:

(17)   Causal chains:
        a. double causative and, by hypothesis, fake causative: e → e′ → Marat run
        b. single causative: e → Marat run

The cause relation is transitive (Dowty 1979, Kratzer 2005), hence, for (17a) "e → Marat run" holds just as for (17b). Therefore, double causatives asymmetrically entail single causatives. We expect that a common scalar implicature will be generated. By choosing a single causative against a more informative double causative, the speaker would implicate that e and Marat's running are immediately connected in the casual chain. Therefore, the single causative should produce the inference that the subject's activity is more directly involved in bringing about a running event than in the case of the fake causative.

As a matter of fact, the judgments of native speakers are exactly the opposite. The fake causative implicates *more* immediate involvement of the subject in bringing about the running. On the scenario in (18), where the causer's activity is immediately related to a running event and continues throughout its temporal extent, both single and fake causatives are true.

(18) Scenario 1: The trainer ordered Marat to start running, and kept on giving him advise or encouraging him in the course.
        OK: single causative, OK: fake causative

In contrast, on the scenario in (19), only the single causative is true:

(19)   Scenario 2: The trainer asked Marat's friend to convince him to run at the   competition, and the friend's attempt was successful: Marat ran.
        OK: single causative, NOT OK fake causative

If the fake causative is essentially a double causative, one finds oneself in an awkward situation where a longer causal chain results, intuitively, in the increase of immediacy of causation.

What this means is that the fake causative should not be analyzed as a double causative. Neither (11) nor (15) is to be chosen if we can make an alternative account work. In the next section, I will start approaching such an account by taking a closer look at the meaning of fake causatives and conclude that it is best analyzed in terms of sociative causation.

3. Sociative causation

3.1. Tatar fake causative as a sociative causative

In (18)-(19), we see that the single and fake causatives differ as to what they convey about the relation between causing and caused events. As (18)-(19) indicate, for the fake causative, no intermediate causal events are allowed that separate the cause and the effect. For the single causative, the relation between two events is not constrained in this way. Therefore, fake causatives give rise to more restricted truth conditions than single causatives. A further examination reveals that immediate connectedness of the two events is a necessary but not a sufficient condition:

(20)   Scenario: the trainer ordered Marat to run and, as soon as Marat started running, he went away.
         a. $^{?/??}$ trEnEr marat-ne   jEgEr-t-tEr-dE.
                    trainer   M.-ACC   run-CAUS-CAUS-PST
         b. ^{OK}trEnEr   marat-ne   jEgEr-t-tE.
                    trainer   M.-ACC   run-CAUS-PST
         'The trainer made Marat run.'

In (20a), the causer's activity is connected to the causee's running directly, with no intervening causes. However, on the described scenario the fake causative is strongly dispreferred, if not ungrammatical. Why? The answer to the question begins to emerge if one observes that the two subevents, the trainer's action and Marat's running, do not temporally overlap in (20a), and no part of running involves a temporally coextensive causal input from the trainer. On the scenarios in (21), the fake causative is entirely appropriate:

(21)   a. The trainer follows Marat, telling him how to run.
         b. The trainer helps Marat run by removing obstacles out of his way in the course   of running.
         c. The trainer supervises Marat's running.

The same effect can be observed in (22), where we are dealing with the fake causative of the unaccusative verb 'melt, intr.' in the progressive:

(22)   Scenario 1: Alsu is standing by the stove, stirring pieces of butter in a pot. A asks B: What is she doing? B answers:
         Scenario 2: A sees a pot on the stove-top. A asks B: What is it here? B answers: It is Alsu's butter. She just left it for a minute and will be back right away.
         Alsu   maj   ere-t-ä.
         A.   butter   melt-CAUS-IPFV
         'Alsu is melting the butter.'

(23) Scenario 1: Alsu is standing by the stove, stirring pieces of butter in a pot. A asks B: What is she doing? B answers:
*Scenario 2: A sees a pot on the stove-top. A asks B: What is it here? B answers: It is Alsu's butter. She just left it for a minute and will be back right away.

Alsu   maj   ere-t-ter-ä.
A.   butter   melt-CAUS-CAUS-IPFV
'Alsu is melting the butter.'

For (22) to be true it is sufficient that the causing event (Alsu's action) only overlaps with the initial part of the caused event (the butter getting melted). The developmental stages of the caused event can occur without the causer being there. The physical conditions for melting to go on are maintained by the stove, activated by the agent in the beginning. This is what happens under Scenario 2. In contrast, for the fake causative in (23), it is required that the causer be part of the scene and exercise control over the process (minimally by keeping an eye on the pot). (23) is verified by the Scenario 1, but not by the Scenario 2.

The fake causative of both 'run' and 'melt' thus pattern together: not only should the subject be an immediate causer of the event, she should also provide a continuous causal input to its development. Therefore, there is more to the meaning of the fake causative than the plain causal relation.

What tells single and fake causatives apart? I suggest the hypothesis in (24):

(24)   The fake causative in Tatar is S&P's sociative causative.

The examples in (18)-(23) suggest that the fake causative features the key ingredient of sociative causation: 'the causer must accompany causee in the execution of the caused event', as Guillaume and Rose 2010 put it. Moreover, the range of scenarios that facilitate the use of the fake causative, (21), matches S&P's subtypes of sociative causation, joint action, assistance and supervision. No semantic characteristics of fake causatives seem to argue against treating them as sociative causatives. We can conclude, therefore, that (24) could be a reasonable working hypothesis.

If (24) is right, the fake causative in Tatar can be used to build up a hypothesis about the precise content of sociative causation in general. However, to accomplish that, one has to consider sociative meaning in more detail and give it more content.

3.2. Issues of co-participation

Even though neither S&P, nor other semanticists provide us with an explicit model-theoretic analysis of sociative causation, its defining characteristic is not infrequently thought of in terms of the 'involvement' of the causer in a caused subevent. In sociative causation, as Creissels and Nouguier-Voisin (2004) point out, the causer is **a co-participant**: it is not "the only initiator or controller of the event, but crucially contributes to the realization of an event in which the causee takes an active part". On this view, co-participation can manifest itself to different degrees: the maximal involvement of the causer would amount to the 'joint action' reading in (21a), the minimal one can be identified with the 'supervision' reading in (2b), with the assistive reading in (21c) staying in between (S&P 2002, Guillaume and Rose 2010, among others).

This characterization seems to imply that the semantic locus of sociative causation has to be found in the relation between an individual and a (caused) event, that is, in a **thematic relation**. In Neo-Davidsonian terms, the sociative causative would be analyzed along the lines of (25), where the same individual is thematically related to both causing and caused (sub)events — as a causer and a 'co-participant', respectively:

(25) $\| \text{SOC} \| = \lambda P.\lambda x.\lambda e.\ \exists e'\ [\text{CAUSE}(e')(e) \wedge \text{causer}(x)(e) \wedge \text{co-participant}(x)(e') \wedge P(e')]$

While there are no reasons to reject (25) or an analysis along similar lines on *a priori* considerations, I believe that it may run into complications that are difficult to avoid.

For one thing, a configuration of the type $[\ldots \text{causer}(x)(e) \wedge \text{CAUSE}(e')(e) \wedge R(x)(e') \ldots]$ involves **self-causation**: by bringing about a caused event, e', x makes herself to participate in it with the role R. Consider (26) again:

(26)   trEnEr marat-ne   jEgEr-t-tEr-dE.
        trainer   M.-ACC   run-CAUS-CAUS-PST
        'The trainer made Marat run.'

According to (25), if the trainer orders Marat to run and, for example, runs with him, giving him advise in the process, as suggested by the joint action scenario in (21a), the causing event is his giving Marat an order, while the caused event is their joint running, Marat being its agent, and the trainer a 'co-participant':

(27)   Subevental content of (26) on the joint action reading:
        Causing subevent: the trainer orders Marat to run
        Caused subevent: there is running in which Marat is the agent, and the trainer is a co-participant.

(28) $\| \text{trEnEr marat-ne jEgEr-t-tEr-} \| = \lambda e.\ \exists e'\ [\text{CAUSE}(e')(e) \wedge \text{causer}(\text{the.trainer})(e) \wedge \text{run}(e') \wedge \text{agent}(\text{Marat})(e') \wedge \text{co-participant}(\text{the.trainer})(e')]$

This does not correspond to the intuitive judgments about the truth conditions of (26), however. By giving Marat an order, the trainer causes his running. But the order does not cause the trainer to run with Marat, and (28) is clearly at odds with this intuition. Furthermore, replacing the co-participant with a different thematic relation does not remedy the semantics: *any* involvement of the causer in the caused subevent leads to self-causation.

Another doubt about (25) starts growing up as soon as one tries to make the notion of co-participation in a caused subevent sufficiently explicit. If sociative causation reduces to a thematic relation, specified in (25) as 'co-participant', it turns out that it is a very unusual thematic relation, which does not seem to be attested outside of sociative causation.

On the one hand, this relation comprises an impressively wide range of possible involvements of an individual in an event that manifest themselves in 'joint action', 'assistive' and 'supervision' sociative causatives. At the same time, it should be specific enough to exclude quite a lot of other thematic relations. The causer cannot be a theme or an experiencer in a caused subevent, for example. Nor can co-participation be defined in terms of the agent thematic relation. The caused subevent of running is endowed with an agent to begin with. Due to

Uniqueness of participants (e.g. Krifka 1989 an elsewhere), no event can have two agents, which means that the co-participant is not an agent. At the same time, just like an agent, a co-participant has to exercise control over the caused event and contribute to its development throughout its temporal extent.

It may not be impossible to construct a definition that would capture all these characteristics. But what such a definition would give us starts looking like a construction-specific relation unattested outside of the sociative causation. One may want to think of an alternative.

A tempting way of going around some of these complications would be to suggest that co-participation amounts to the formation of a sum individual consisting of the causer and the causee. This individual would be involved in the caused subevent in the role specified by the lexical meaning of a non-derived verb. 'Run' requires an agent, so after causativivisation the agent of running will be the sum of the trainer and Marat, as in (29). No special thematic relation like 'co-participant' is introduced. The problem of how to provide the trainer with substantial properties of an agent without making him the second agent of the caused subevent does not come about either.

(29) $\parallel$ trEnEr marat-ne jEgEr-t-tEr- $\parallel$ = λe. $\exists$e$'$ [CAUSE(e$'$)(e) $\wedge$ causer(the.trainer)(e) $\wedge$ run(e$'$) $\wedge$ agent(the.trainer $\oplus$ Marat)(e$'$)]

However, this apparently easy way of fixing (28) does not help much, since (29) faces another complication. One significant aspect of (28) is lost in (29): the role of the trainer and Marat in running are not symmetric. On the scenario in (30), according to the judgments, the sentence in (26) is false:

(30)   The trainer orders Marat to run and runs with him without saying a word.

For the trainer, it does not suffice to merely run with Marat. What he is doing should have impact on Marat's running, e.g., its speed, manner or other parameters. (29) cannot say why this should be the case, however[4]. In this respect, (28) gives even more promise: the causer and causee hold different relations to the caused event, so the possibility of capturing their different contribution is open.

3.3. Incrementality

At this juncture, a different perspective may be found. If attempts of capturing essential properties of sociative causation by appealing to thematic relations face difficulties, one can try another line of inquiry: to reconstruct sociative causation in terms of a relation between causing and caused subevents themselves. In case of sociative causation, this relation has a certain property that is not there in case of other types of causatives.

The key intuition is as follows. When the trainer makes Marat run by running with him and telling him how to run, his action e supplies constant causal input to the caused eventuality e$'$. Causing and caused events have to be temporally co-extensive. Every contextually relevant part

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[4] Besides, (29) would require non-canonical assumptions about syntax-semantics interface, since for (29) to work one needs to assume partial saturation of an argument position by (the denotation of) a DP. Only one part of an individual that serves as the external argument of 'run' will be contributed by the DP 'Marat', the subject of 'run' in Spec, *v*P. The other part will have to wait until the higher causer DP appears in the higher Spec, *v*P.

of the causer's activity has to bring about some part of the causee's running. The other way around, every piece of running has to be induced by a corresponding fragment of the activity.

The relation on events informally described above is easily recognizable. Rothstein (2004) identifies a similar relation for a class of lexical accomplishments like 'read a novel' or 'plow a field'. When one plows a field, the field undergoes change, and every part of the change requires an input of plowing activity. Reversely, every relevant part of plowing activity brings about some change. This **incremental relation** is defined in (31)-(32) and graphically represented in Scheme 1[5]:

(31) **Incremental relation** (Rothstein 2004)
$INCR(e_1, e_2, C(e_2))$ (e_1 is incrementally related to e_2 with respect to the incremental chain $C(e_2)$) iff there is a contextually available one-one function μ from $C(e_2)$ onto $PART(e_1)$ such that $\forall e \in C(e_2).\tau(e) = \tau(\mu(e))$

(32) **Incremental chain**
$C(e)$ is a set of parts of e such that (i) the smallest event in $C(e)$ is the initial bound of e, (ii) for every e_1, e_2 in $C(e)$ $e_1 \leq e_2$ or $e_2 \leq e_1$, and (iii) e is in $C(e)$
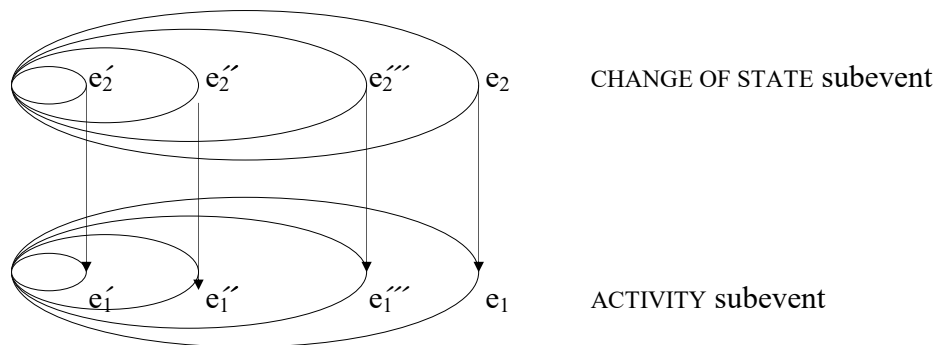
Given (31)-(32) and the observations from Section 2, I am in the position of formulating the central hypothesis of this section: part of the meaning of sociative causation is incrementality:

(33) Sociative causation is an incremental causal relation on events.

Retaining the overall idea behind Rothstein's definition, I modify it the following way[6]. First, I define incrementality a second order property of relations on events. This property holds of a relation R if it satisfies the three conditions in (34)-(36) that can be called Mapping to subordinate subevents (MSbS), Mapping to superordinate subevents (MSoS) and Temporal Co-extensiveness[7]:

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[5] Rothstein's incrementality, a relation on events, is not to be confused with Krifka's (1989, 1992, 1998) incrementality, which is a property of relations between individuals and events. Not every incremental predicate *a là* Rothstein implies an incremental theme predicate *a là* Krifka. For example, *He pushed the cart into the garage* entails the incremental relation between the pushing activity and change of location of the cart. The cart, however, is not an incremental theme: it is not the case that the more one pushes the cart, the bigger part of the cart has been pushed.

[6] Recently, Gyarmathy (2015) has pointed out that Rothstein's view of incrementality can fall short of accounting for coerced achievements and proposed, as an alternative, that Rothstein's ordering of the change of state subevent is to be reconstructed in scalar terms. As far as I can see, nothing in what follows is incompatible with Gyarmathy (2015), if this proves to be the right way of representing incremental accomplishments.

[7] (34)-(35) are inspired by Krifks'a Mapping to (sub)objects and Mapping to (sub)events conditions.

(34)   The relation R on events is a mapping to subordinate subevents, MSbSE(R), iff
        $\forall e\forall e'\forall e''$ [R(e′)(e) $\wedge$ e″ < e → $\exists e'''$ [e‴ < e′ $\wedge$ R(e‴)(e″))]]

(35)   The relation R on events is a mapping to superordinate subevents, MSoSE(R), iff
        $\forall e\forall e'\forall e''$ [R(e′)(e) $\wedge$ e″ < e′ → $\exists e'''$ [e‴ < e $\wedge$ R(e″)(e‴))]]

(36)   The relation R on events shows temporal co-extensiveness, TC(R), iff
        $\forall e\forall e'$ [R(e′)(e) → τ(e‴)= τ(e″)]]

(37)   Incrementality
        $\forall R$[Incremental(R) $\leftrightarrow$ MSoSE(R) $\wedge$ MSbSE(R) $\wedge$ TC(R)]

What we get is a relation R such that if it holds of two temporally co-extensive events, it also holds of their temporally co-extensive proper parts[8]. With (35)-(37), I propose a two-place relation INCR such that two events are in INCR just in case they fall under a contextually available relation R, R being incremental.

(38) $\forall e\forall e'$ [INCR(e′)(e) = 1 iff $\exists R_C$(e′)(e) $\wedge$ Incremental(R)

The new semantics for sociative causation is shown in (36) (a more detailed derivation will be spelled out in Section 4, after a number of additional refinements are discussed):

(39) || SOC || = λP.λx.λe. $\exists e'$ [P(e′) $\wedge$ CAUSE(e′)(e) $\wedge$ causer(x)(e) $\wedge$ INCR(e′)(e)]

After the sociative causative morpheme takes a predicate of events and an individual argument, a property of events obtains. For (26), it would contain events that incrementally cause Marat's running:

(40) || trainer SOC [Marat run] || = λe. $\exists e'$ [CAUSE(e′)(e) $\wedge$ causer(the.trainer)(e) $\wedge$ run(e′) $\wedge$
        agent(marat)(e′) $\wedge$ INCR(e)(e′)]

By (39), the meaning of sociative causatives includes, set-theoretically, the intersection of two sets of pairs of events: those related by CAUSE and those related by INCR. By requiring the causal relation to be incremental, one obtains a relation where two eventualities are causally related down to their proper parts and temporally co-extensive[9]. By (34) and (36), any part of the causing eventuality has to bring about some temporally co-extensive part of the caused eventuality, and by (35) and (36), any part of the caused eventuality is to be brought about by some temporally co-extensive part of the causing eventuality.

This seems to give us what we need. (39) successfully captures the main characteristic of the sociative causative, which was informally described as constant causal input to the realization of

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[8] The reader should keep in mind that a more refined version of (34)-(36) would probably involve sets of *contextually relevant* proper parts of related events. This would allow, specifically, to disregard causally irrelevant parts of causing eventualities. To keep the presentation simple, I ignore this refinement which does not affect the overall line of argument.

[9] Note that if Incrementality in (37) is directly forced onto CAUSE ([… CAUSE(e′)(e) $\wedge$ Incremental(CAUSE) …]), the outcome will come out trivially false, since CAUSE is generally not incremental.

a caused eventuality. On this analysis, the causer is only thematically related to the causing subevent, without being the participant of the caused subevent at all. The rest of the job is done by incrementality. Issues surrounding the definition of the alleged 'co-participant' role are successfully avoided. Temporal co-extensiveness of the causing and caused subevents does not need to be built into a thematic relation.

Another essential characteristic of (39) is that it imposes no further restrictions on the descriptive properties of the causing subevent: it can be construed in whatever way compatible with the CAUSE relation and incrementality. 'Joint action', 'assistive', 'supervision' and other possible construals are not, then, to be viewed as separate "readings", but rather as contextually restricted realizations of the combination CAUSE ∧ INCR underspecified for more precise descriptive content.

If (39) is correct, the fake causative is to be viewed as a morphological signature of incrementality strengthening the causal relation, as specified in (41). I will address the morphosyntax of this configuration in Section 4.2; for the moment a descriptive generalization in (41) will suffice.

(41)   A fake instance of TYR is a morphosyntactic device in Tatar conveying that a relation between causing and caused subevents is incremental.

To recapitulate, I have argued that sociative causation is causation constrained by incrementality. This new view seems to provide at least the same empirical coverage as the alternatives in (25) and (29) without running into complications that arise if one needs to determine the role of the causer participant in the caused subevent.

In the next section, I briefly look at another set of data that provide support for the proposal I have been developing. Later on, in Section 4, I will focus out how 'sociative causation' is related to immediate/direct, and non-immediate/non-direct causation.

3.4. A few predictions

If the analysis in terms of incrementality is correct, further expectations emerge. Suppose that a non-derived verb denotes eventualities whose development escapes volitional control. One of such verbs is 'cough'. A doctor can initiate a patient's coughing (e.g., by giving her a special medicine). However, world knowledge tells us that once initiated, coughing can hardly depend on the doctor's goal-oriented effort. Under normal circumstances, it can at best be manipulated to a certain extent by the patient herself, but there is no obvious way in which the doctor can make it keep going. We expect therefore, that out of the blue, with no scenario provided where the doctor has outstanding abilities or special equipment, a sociative causative of the form 'The doctor makes the patient cough' would sound awkward.

The expectation is borne out. In (42), the acceptability of the fake causative of 'cough' is significantly diminished, whereas the single causative in (43) is readily available:

(42)   ?/??doxtur   marat-ne   UtkEr-t-tEr-dE.
        doctor   Marat-ACC   cough-CAUS-CAUS-PST
        'The doctor made Marat cough.'

(43)   doxtur   marat-ne   UtkEr-t-tE.
        doctor   marat-ACC   cough-CAUS-PST

'The doctor made Marat cough.'

Relative acceptability of (42) and (43) is predicted by a theory that relies on incremental causation. The speakers judge examples like (42) deviant, since it is difficult to establish causal dependence between proper parts of coughing and parts of the doctor's activity. It is by far less obvious if the same result is derived by the 'co-participation / involvement' theory. The doctor can show a high degree of involvement into a caused subevent, up to physical involvement. So if sociative causation had to do with involvement, one would expect for (42) to become acceptable the doctor does not have to possess supernatural abilities; being highly determinated to make the patient cough would suffice. This is not the case, however.

Another phenomenon is so called is intensive causation. Kulikov (1999) cites examples like (44) from Turkish (via Zimmer 1976: 411f.):

(44)   Müdür-e   mektub-u   ač-tïr-t-tï-m.
       director-DAT   letter-ACC   open-CAUS-CAUS-PST-1SG
       'I made the director open the letter [forcefully] (perhaps against his wish).'

The verb in (44) consists of the transitive verb stem 'open', two instances of the causative morpheme and one causer. (44) is thus a clear instance of fake causativization. Given that the transitive verb 'open' undergoes causativization twice, the expected meaning of this combination is 'make x make y open z'. But instead of two causing events, only one is detectable and, moreover, (44) is understood as conveying that the caused event, opening of the door, is "brought about with special effort" (Kulikov 1999).

Similar inferences associated with the fake causative are also detectable in Tatar, as (45) illustrates:

(45)   marat kErIm-nI   aSa-t-te.
       M.   K.-ACC   eat-CAUS-PST
       'Marat fed Kerim.'

(46)   marat kErIm-nI   aSa-t-ter-de.
       M.   K.-ACC   eat-CAUS-CAUS-PST
       'Marat fed Kerim.'
            → 'Marat fed Kerim by force, against his will.'

In the neutral context, the causative event described by the fake causative in (46) stands out in some way or other as compared to the single causative in (45). The regular reaction of native speakers to (46) would be to say that the causer put a lot of effort in feeding the causee and/or that the causee resisted being fed.

'Intensiveness' is not an entailment of sentences based on fake causatives. The status of this meaning component is that of an implicature. If the discourse in (46) is extended by (47), the 'against his will' implicature is canceled and no contradiction comes about.

(47) Right context for (46): and Kerim readily/gladly/enthusiastically ate.

How is the intensiveness implicature generated? I believe that if the fake causative entails the incremental relation, implicatures of this type is exactly what one would expect. By choosing

(46) or (44), the speaker indicates that every part of causee's action has occurred due to a certain causal input from the causer. By the usual Gricean reasoning, the interlocutor is in the position to infer that the causee would not have done what he did without the causer's continuous effort; otherwise, the speaker would not have a reason to use the fake causative. The 'forcefullness and unwillingness' import of (44) and (46) would follow from that.

I argue, more generally, that the flavor of intensive causation is a side effect of incremental causation: 'choosing the fake causative against the single causative' → 'indication that bringing about the causee's action requires a constant effort' → 'the inference that the effort exceeds the ordinary'[10]. I do not provide a formal elaboration of how the implicature is generated; informal reasoning would suffice for our purposes.

Again, whether the implicature is predicted on the 'co-participant' analysis in (25) depends on the exact content of this thematic relation. But since the notion of co-participation resists precise characterization, it is not obvious whether specific predictions about available implicatures can be drawn from this type of theory. Nor is there an obvious way of how the imlicature can come about on the sum individual analysis in (28).

I conclude, therefore, that when it comes to dealing with world knowledge restrictions like (42)-(43) or intensity implicatures like (44)-(46), the analysis in (40) is doing at least as well as the alternatives without running into any substantial difficulties.

In the next section, I address the question most discussed in the literature on sociative causation: what is the place of sociative causation in a bigger picture?

4. Incrementality and a theory of sociative causation

4.1. Direct, indirect, and non-direct causation

I proposed that sociative causation is a causal relation coupled with incrementality. Nothing in what has been said so far presupposes any particular view of what the causal relation is. In this section, I address this issue in the light of the discussion of the place of sociative causation within the space of available causal possibilities. I begin by addressing the fundamental distinction between **direct** and **non-direct** causation.

The distinction has generated a lot of debate in philosophy and linguistics, which I am not able to address in any detail here. In the literature, it has infrequently been approximated under different but related notions like manipulative vs. directive (Shibatani 1976), contactive vs. distant (or non-contactive) (Xolodovič (ed.) 1969, Saksena 1982), immediate vs. mediated (Kulikov 2001), causer-controlled vs. causee-controlled (Wierzbicka 1988, Shibatani 2002). It has been a constant topic in the studies of causativization phenomena since the late 1960s and one of the central issues surrounding the debate on lexical and syntactic causatives (Lakoff 1965, Fodor 1970, McCawley 1971, 1972, Cruse 1972, Shibatani 1973, Yang 1976, see a discussion in Miyagawa 2012).

A good way of introducing the distinction is by means of an illustration. Consider (48)-(49):

(48)   rEnat ezba-ne   jan-**der**-de.
         R.   house-ACC   burn.intr.-**CAUS**-PST
         1. 'Renat burnt down the house.'

---

[10] Not surprisingly, the 'by force' implicature does not appear with non-agentive causees like the one in (30): even though the causer makes incremental contribution to heating of the water, the water cannot resist being heated, hence performing the action in the forceful way cannot be the reason for choosing the fake causative.

2. *'{Having paid to a felon for starting fire,} Renat had the house burn down.'

(49) uketuCe   marat-ne   jareS-ta   jEgEr-t-tE.
     teacher   M.-ACC   competition-LOC   run-CAUS-PST
     1. 'The teacher made Marat run at the competition {by pushing him on the lane}'
     2. '{Having convinced the coach that Marat is a good runner,} the teacher had
     Marat run at the competition.'

Intuitively, (48.2) and (49.2) involve a causal chain where the causers's activity and the causee's action are separated by intermediate events. In (48.1) and (49.1) the chain only consists of the causing and caused events themselves; intermediate causes are excluded.

What (48)-(49) show is that causatives like 'burn down' and 'make run' entail quite distinct causal relations. (48) is based on the relation of **immediate causation**, which will be referred to as I-CAUSE from now on. Causally related events separated by intermediate causes cannot be part of this relation, as (48.2) shows. The relation in (49) can be called G(eneral)-CAUSE: for a pair of events to be an element of this relation, these events can but do not have to be directly connected.

There is literature where causatives like (49) are somewhat misleadingly called **indirect**, with the implication that such causatives entail that there must be intermediate causes in between a causing and caused subevents. In effect, however, such causatives only suggest that there can be such causes, as the appropriateness of both (49.1) and (49.2) shows, and are therefore underspecified as to the length of a chain. McCawley (1978) makes a similar case for periphrastic causatives in English: according to him, rather than expressing indirect causation, *X causes Y to VP* is neutral with respect to this parameter, indirectness coming about as a conversational implicature.

In what follows I will keep on using the terms "direct", "immediate" and "I-CAUSE" interchangeably for causatives like (48); their (49)-type counterparts will be cited as "non-direct" (rather than "indirect"), "non-immediate" or "G-CAUSE" causatives.

In Tatar, as well as in many other languages, whether a causative involves the I-CAUSE or G-CAUSE relation is largely predictable from the properties of a non-derived verb and the verb phrase it projects. Causativization of transitive and unergative verbs involves G-CAUSE; unaccusatives require I-CAUSE (Lyutikova, Tatevosov 2014). Thus, the causative of *jeger* 'run', discussed extensively in the previous sections is a G-CAUSE causative, whereas, for example, the causative of 'melt' in (23) is based on I-CAUSE[11]. The same or similar distribution of G-CAUSE and I-CAUSE has been reported in a variety of other genetically and areally unrelated languages (Lidz 2004, Harley 2008, among others).

The paradigm in (48)-(49) is also typical for Turkic and many other languages in that the same piece of morphology can occur in both types of environment, indicating that directness of causation has no visible consequences at the spell-out. Again, cross-linguistically, the picture can be more complicated, see, for example, Saksena 1980, 1982, Bhatt & Embick 2003, and Ramchand 2014 who discuss causatives in Hindi that involve a considerably different morphosyntactic make-up.

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[11] There are a few interesting special cases where this otherwise very consistent correlation seems to break. Some causatives of transitive verbs (psych verbs, some motion verbs, some consumption verbs like 'eat' and 'drink' seem to prefer I-CAUSE over G-CAUSE (Lyutikova et al. 2006). Nothing in what follows depends on what turns out to be the right analysis for these special cases.

How can the differentce between causatives like (48) and (49) be made explicit? (50) presents a sample of semantic parameters that have been claimed to underlie the direct/non-direct distinction, either solely or in combination with others (see also a comprehensive overview of existing theories in Martin, Schaefer 2014:237-244).

(50)   a. **Spatio-temporal profile.** Direct causatives show temporal and spatial adjacency or overlap of the causing and caused (sub)events; no such requirement for non-direct causatives. Event-structurally, direct causatives are therefore frequently characterized as monoeventive, while non-direct causatives as bi-eventive. (Harley 1995, 2008, Miyagawa 2012, Lyutikova, Tatevosov 2014, a.o.)
b. **Agentivity**. In direct causatives, there is one agent (the causer) who controls the whole complex eventuality including the final result, but more than one agent is licensed in non-direct causatives (Wunderlich 1997)
c. **Contact/manipulation.** In direct causatives. the causer shows physical involvement in the caused event and/or is in physical contact with the causee; there is no such a requirement in non-direct causatives. (Shibatani 1976, Dixon 2000, a.o.)
d. **Structure of causal chains**. Intermediate causing events are impossible in direct causatives, but there is no such a restriction for non-direct causatives. (Dowty 1979, Bittner 1998, Kratzer 2005)

(50a) and (50d) contrast with (50b-c) in that they aim at capturing the distinction in terms of various properties of the causal relation itself, without the appeal to how agents of complex causative eventualities are projected and construed (see Thomason 2014 for a recent discussion). Evaluating each of the parameters in (50) goes far beyond the scope of this paper. Below I will follow Kratzer (2005) who can be thought of as a variant of (50d), the line of inquiry that seems to be rooted in the programmatic work by Dowty (1979). As we will see shortly, Kratzer's view makes (50b-c) superfluous, and (50a) derivative.

Kratzer argues that I-causally related events should stand in the mereological part-of relation, as in (51):

(51) $\| I\text{-CAUSE}(e')(e) \| = 1$ iff e is the sum of all the members of a causal chain with the maximal element e'

According to (51), the causing event comprises the whole causal chain that leads to the caused event, including the caused event itself. (Kratzer, following Ginet 1990, calls the 'causing-of' relation what is referred to as I-CAUSE in (51).) The rationale behind this move is based on the following reasoning. Suppose we have an event description of the form $\lambda e.\exists e'[P(e) \wedge Q(e') \wedge \text{CAUSE}(e')(e)]$. This property of events is true of any event which falls under P and *is also a completed event of causing some Q-event*. For Kratzer, this means that the whole causal chain leading to a Q-event, including this Q-event itself, must be in the denotation of P. Kratzer's definition, repeated in (51) with minimal adjustments, aim at capturing this intuition.

In parallel with (51), Kratzer defines another relation: a pair of e and e' is an element of this relation iff e is *the minimal element in a causal chain leading to e'*. This is an indirect causation rather than non-direct causation, or G-CAUSE, the relation we are after. As was already pointed out, given (49.1) and (49.2), G-CAUSE should comprise both direct and indirect causation. I

suggest that if sum formation is made part of the definition of a causal relation, as in (51), G-CAUSE can be naturally defined in a parallel way:

(52)   ‖ G-CAUSE(e′)(e) ‖ = 1 iff e is the sum of some members of a causal chain with the maximal element e′, provided that the minimal element in that chain is part of e, and e is a convex part of the chain (that is, for every e′, e″, if e′ and e″ are parts of e, any e‴ located in between e′ and e″ in the chain also is).

(52) involves existential rather than universal quantification over the members of a causal chain. I-CAUSE(e′)(e), based on universal quantification, therefore asymmetrically entails G-CAUSE(e′)(e) for any e, e′, which seems to be exactly what we need given the range of interpretations observed in sentences like (48)-(49). Assuming that the semantic construal of (49) involves G-CAUSE, but (48) is based on I-CAUSE captures these interpretations in a principled way. It should be emphasized, however, that nothing in what follows hinges on the specifics of (51)-(52).

(52) derives bi-eventiveness of non-direct causatives, (50a), possibly with minimal supplementary assumptions. One of the extensively discussed manifestations of bi-eventiveness is the ability of non-direct causatives to allow for independent adverbial modification of the two subevents, as in Fodor's (1970:433) celebrated example *John caused Bill to die on Sunday by stabbing him on Saturday* vs. **John killed Bill on Sunday by stabbing him on Saturday*. (51) predicts, correctly, ungrammaticality of the latter: according to (51), in direct causatives, the causing subevent cannot occur at a interval t without the caused event occupying a final subinterval of t. With (52), nothing prevents the two subevents from being temporally dislocated, which is a precondition for them to allow independent temporal modification. Therefore, if coupled with a reasonable syntactic theory of causative formation and a theory of adverbial placement (see the extensive discussion in Harley 2008), (51)-(52) account for this pattern in a principled way. I will rerun to the issues surrounding temporal and spatial connectedness of the two subevents in Section 5.2.

Assuming (51)-(52) as the working definition of the two causal relations, we find ourselves in the position of addressing the crucial question: How is sociative causation related to I-CAUSE and G-CAUSE?

The analysis of sociative causation from Section 4.1, repeated in (53), takes a neutral stand with respect to this issue. It only says that sociative causation is a causal relation strengthened by incrementality.

(53)   ‖ SOC ‖ = ... λe. ∃e′ [... CAUSE(e′)(e) ∧ INCR(e′)(e) ...]

A priori nothing forces us to assume that INCR is unable to come along with both I-CAUSE and G-CAUSE, hence both can be considered possible candidates for the denotation of sociative causatives:

(54)   a. ‖ SOC$_1$ ‖ = ... λe. ∃e′ [... D-CAUSE(e′)(e) ∧ INCR(e′)(e) ...]
         b. ‖ SOC$_2$ ‖ = ... λe. ∃e′ [... I-CAUSE(e′)(e) ∧ INCR(e′)(e) ...]

Moreover, it is conceivable that some grammatical morphemes exploit (54a), whereas others make use of (54b). Nothing even excludes a possibility that (54a) and (54b) coexist within the

same language. In effect, Tatar seems to be a language where this latter possibility is empirically real.

We have seen that in Tatar, the same piece of morphology, TYR, occurs in both I-CAUSE and G-CAUSE environments, as in (48)-(49). Furthermore, sociative causation is also attested in both environments. Recall from Section 3.3 that the sociative causative in Tatar is essentially the fake causative, where one more piece of TYR appears without contributing an extra causing subevent. Descriptively, it is this second instance of TYR that can be taken to be a phonological signature of sociative causation, as the generalization in (41) states. We find it in combination with 'make run', a G-CAUSE causative based on the unergative stem 'run', as well as with 'boil', an I-CAUSE causative of the unaccusative 'boil'. This leads to the generalization in (55):

(55) A fake instance of TYR, which signals that a relation between causing and caused subevents is incremental, can co-occur with whatever type of causative independently licensed in a given morphosyntactic configuration.

When an unaccusative verb gets causativized, I-CAUSE is licensed, and the fake TYR forces it to be incremental. Causativization of unergatives and transitives creates a configuration where G-CAUSE is required, and it is G-CAUSE that gets strengthened by incrementality. This is exactly the picture presupposed by (54a-b).

In the upcoming section, I spell-out my assumptions about the derivation of the two configurations schematically represented in (54) in more detail.

4.2. Radical predicate decomposition

What follows relies on Radical Predicate Decomposition (RPD), a theory of syntactically represented event structure advanced in (Lyutikova and Tatevosov 2012, 2013, 2014), which assumes that relations between subevents can be represented in the syntax independently of other elements of event structure. (56) is an RPD-based structure of *v*P which spells out this crucial assumption.

(56)
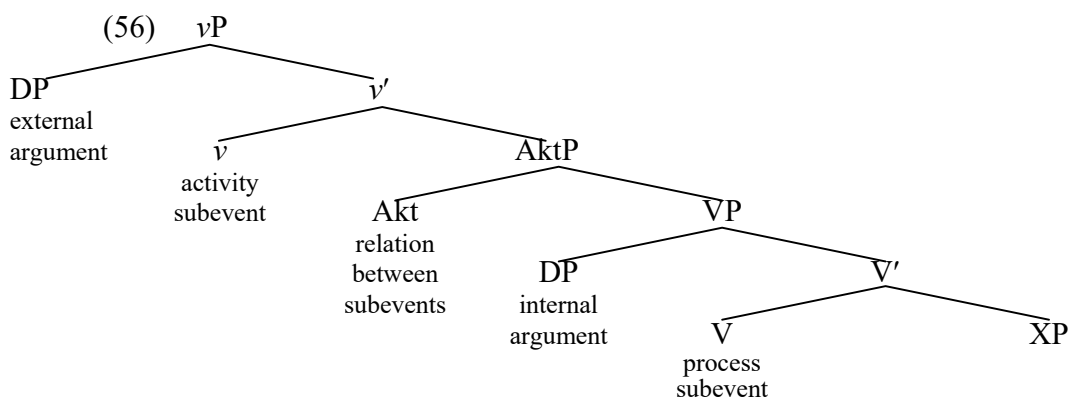
In (56), *v* contributes an activity subevent, V is connected to the change of state subevent, and XP that V takes as its complement specifies a result state (much in the spirit Ramchand's (2008) *modulo* notational differences). The main innovation of RPD is: subevental components of an

event description are represented independently from relations between them, the latter being introduced by Akt(ionsart) morphemes located in between eventive heads.[12]

Semantic composition of (56) works as represented in (57).

(57)

v': $\lambda e.\lambda e'.\ R(e')(e) \wedge P(e') \wedge Q(e)$

v
$\lambda e.Q(e)$

$\lambda e.\lambda e'.\ R(e')(e) \wedge P(e')$

PRO

7

AktP: $\lambda e'.\ R(e')(g(7)) \wedge P(e')$

Akt: $\lambda e'.\ R(e')(g(7))$

VP
$\lambda e.P(e)$

Akt
$\lambda e.\lambda e'.\ R(e')(e)$

t_7
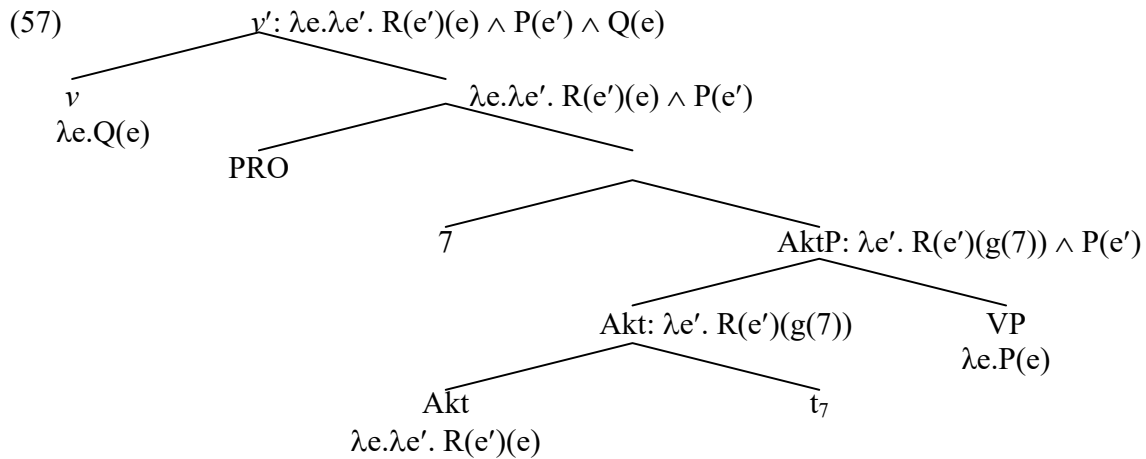
In (57), both VP and *v* supply predicates of events, P and Q, respectively. The denotation of the Akt head is a relation between two eventualities. Following recent work on temporal and aspectual interpretation (von Stechow 2009, Beck, von Stechow 2015, among others), I assume that PRO merges as the sister of the Akt head. PRO has no meaning and no type and, being uninterpretable *in situ*, undergoes movement, leaves a trace of type *v* and binds that trace.

The composition of the event structure in (57) is done by two instances of Event Identification (IE, Kratzer 1996). I assume the version of IE shown in (58), which can combine two event descriptions, two relations between events or an event description and a relation between events and some other entities, whichever makes sense. Event Identification can be further generalized, but (58i-iii) is all that will be needed below.

(58)   Event Identification:
If α is a branching node, β and γ are its sisters, and
i. both $\| \beta \|$ and $\| \gamma \|$ are of type $<v,t>$, then $\| \alpha \| = \lambda e.\ \| \beta \|(e) = \| \gamma \|(e) = 1$
ii. both $\| \beta \|$ and $\| \gamma \|$ are of type $<v, <v,t>>$, then $\| \alpha \| = \lambda e'.\lambda e.\ \| \beta \|(e')(e) = \| \gamma \|(e')(e) = 1$
iii. $\| \beta \|$ is of type $<v,t>$, $\| \gamma \|$ is of type $<\sigma,<v,t>>$, then $\| \alpha \| = \lambda f_\sigma.\lambda e.\ \| \beta \|(e) \wedge \| \gamma \|(f)(e)$
where σ is a type

At the later stages of derivation, the relation between events denoted by v' in (57) turns into a property of (causing) events, presumably by an operator akin to Ktazer's (2000) Stativizer ($\lambda R.\lambda s.\exists e\ [R(s)(e)]$) or Paslawska and von Stechow's (2003) Eventizer ($\lambda R.\lambda e.\exists s\ [R(s)(e)]$).

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[12] RPD shares basic principles of constructionalist approaches established in Pylkkänen 2002, Folli 2002, Borer 2005, Zubizarreta and Oh 2007, Ramchand 2008, Travis 2010, Tubino Blanco 2011, to mention just a few. The theory assumes that event structure is built syntactically and that interpretation of complex event descriptions is determined by the syntactic configuration.

The property is combined with the external argument thematic relation (e.g. λx.λe.causer(x)(e)) by another instance of Event Identification a la Kratzer (1996)[13]. The external argument then merges in spec, vP to complete the derivation of an event description. The latter two straightforward steps are not shown in (57).

Lyutikova & Tatevosov (2014) argue that causative morphology, which is normally thought of as a phonological realization of *v*, is to be reanalyzed as an exponent of Akt. If they are right, the structure of the single and double causative of the unergative verb 'run', repeated in (59a-b), starts looking as (60a-b).

(59) a. trEnEr marat-ne   jEgEr-t-tE.
          trainer M.-ACC   run-CAUS-PST
          'The trainer made Marat run.'

      b. trEnEr kErIm-dAn   marat-ne   jEgEr-t-tEr-dE.
          trainer K.-ABL   M.-ACC   run-CAUS-CAUS-PST
          'The trainer made Kerim make Marat run.'

(60) a. *v*P   b.   *v*P
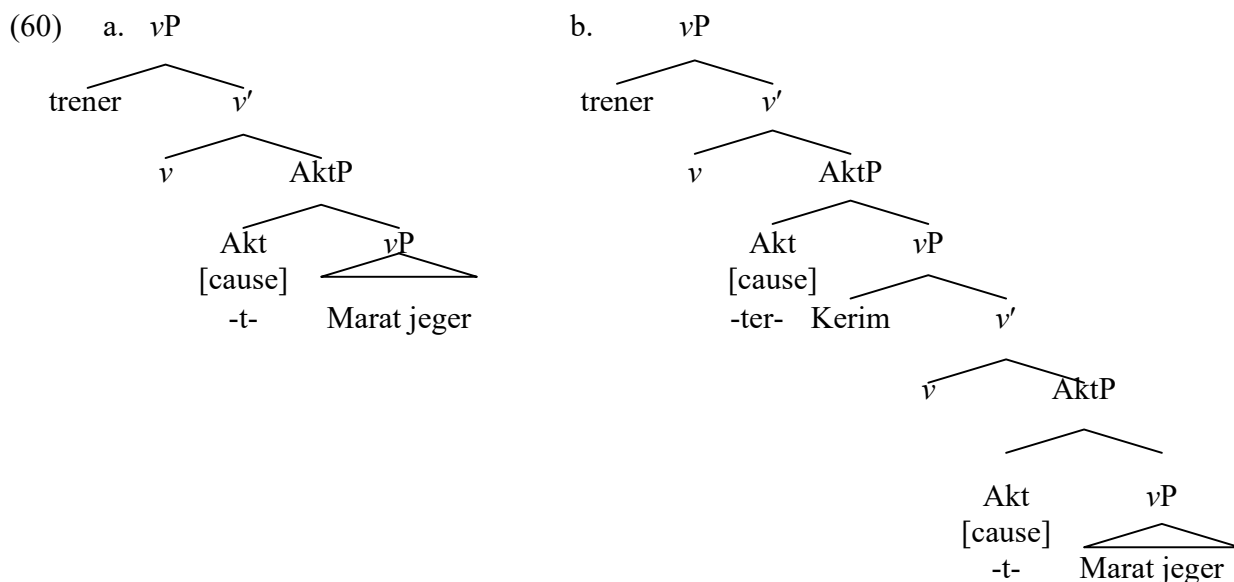
Single and double causatives of unaccusatives will have the same architecture, except that in corresponding structures the most embedded element will be a VP, not a *v*P.

As indicated above, Tatar data suggest that the interpretation of the [cause] feature is determined by a configuration in occurs in, as made explicit in (61a-b). Causatives of unaccusatives, where Akt takes VP as its complement, are based in I-CAUSE, as in (61a). Causatives of unergatives and transitives in (61b), where Akt merges on top of *v*P, involve G-CAUSE, the default causative element.

(61) a. ‖ [cause] ‖ = λe.λe′. I-CAUSE(e′)(e) / [$_{AktP}$ [$_{Akt}$ ___] [$_{VP}$ ...]]

---

[13] In voice-bundling languages (Pylkkänen 2002) like Turkic, this presumably happens within the projection of a head that introduces a causing subevent (v, in the current system).

b. || [cause] || = λe.λe′. G-CAUSE(e′)(e) / elsewhere

Given these considerations, I propose that the derivation of a sociative causative repeated as (62) involves a complex Akt head containing, apart from [cause], the incrementality feature, as in (63). Both elements of this complex head are spelled out by TYR, the only piece of Akt morphology available in the language.

The denotations of [cause] and [incr] are shown in (64a-c). The [incr] feature in (64b) is interpreted as the INCR relation defined in (38) above. [cause], according to (61b), comes out as G-CAUSE in (64a). The denotation of the Akt head in (64c) is obtained by Event Identification, (58ii), which intersects the denotations of [cause] and [incr].

(62)   trEnEr marat-ne   jEgEr-t-tEr-dE.
        trainer M.-ACC   run-CAUS-CAUS-PST
        'The trainer made Marat run (by constant causal input).'

(63)   *v*P

        trener   *v*′

              v   AktP

                 Akt   *v*P

           [cause]   [incr]   Marat jeger
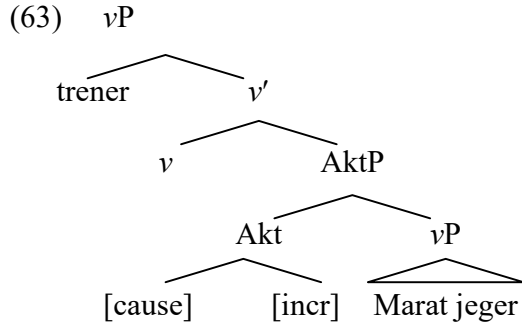
(64)   a. || [cause] || = λe.λe′.G-CAUSE(e′)(e)
        b. || [incr] || = λe.λe′. INCR(e′)(e)
        c. || Akt || = λe.λe. G-CAUSE(e′)(e) ∧ INCR(e′)(e)

With (57), (60)-(61), and (63)-(64), the derivations of single, double and sociative causatives in (59a-b) and (61) are straightforward. Resulting semantic representations are shown in (65)-(67).

(65)   Single causative
        || [*v*P trener -t- [*v*P Marat jeger]] || = λe. ∃e′ [causer(trener)(e) ∧ G-CAUSE(e′)(e) ∧ run(e′) ∧ agent(marat)(e′)

(66)   Double causative
        || [*v*P trener -ter- [*v*P kerim -t- [*v*P Marat jeger]]] || = λe. ∃e′∃e″ [causer(trener)(e) ∧ G-CAUSE(e′)(e) ∧ causer(kerim)(e′) ∧ G-CAUSE(e″)(e′) ∧ run(e″) ∧ agent(marat)(e″)]

(67)   Sociative causative
        || [*v*P trener -ter-t- [*v*P Marat jeger]] || = λe. ∃e′ [causer(trener)(e) ∧ G-CAUSE(e′)(e) ∧ INCR(e′)(e) ∧ run(e′) ∧ agent(marat)(e′)]

To summarize, the analysis I have developed in the last two sections, that can be called **an incrementality theory (IncT) of sociative causation** consists of the following ingredients. Semantically, sociative causation reduces to the incrementality condition being imposed on a causal relation independently required in a given morphosyntactic configuration. Morphosyntactically, a relation between subevents in a syntactically represented event structure is associated with a designated syntactic head Akt(ionsart), which puts the incrementality theory in line with Radical Predicate Decomposition. In sociative causation, Akt is specified for two features, [cause] and [incr]. The former is interpreted, depending on other properties of a configuration, as one of the two causal relations, I-CAUSE or G-CAUSE. The latter denotes the incremental relation INCR.

The structures in (60a-b) and (63) are also subject to interpretation at PF, that is, to spell-out. I will return to this issue in Section 5.3. For the moment, the syntactic representations in (60a-b) and (63) and their semantic interpretation in (65)-(67) is all we need. With these components of the incrementality theory of sociative causation being unfolded, I am ready to evaluate its predictions against the major alternative developed in S&P 2002.

5. IncT and the causative continuum

5.1. Sociative causation as an in-between category

The analysis outlined in the previous sections is considerably different from the mainstream conception of sociative causation going back to S&P 2002. S&P (2002), relying on the previous work by Shibatani (starting from Shibatani 1973, 1975, 1976), advance the view that the concept of causation, as represented in the grammar of natural languages, is best understood as an indiscrete scale or, possibly, even as a multi-dimensional space. Grammatical systems of individual languages can select specific areas from this space for grammatical encoding. The bunch of meanings covered by the notion of sociative causation occupies a contiguous area within this 'causative continuum', as shown in (68), which makes it "an intermediate category between direct and indirect causation" (S&P 2002:96):

(68)   Causative continuum
        DIRECT   JOINT-ACTION   ASSISTIVE   SUPERVISION   INDIRECT

S&P's motivation for (64) consists of semantic and morphological parts.

On the semantic side, S&P argue for the intermediate status of sociative causation by indicating that it shares semantic properties with both direct and indirect causation.

On the morphological side, they observe that the sociative causative meanings can be conveyed by two basic types of morphemes (and a number of subtypes). In some languages, there is a morpheme that occurs in indirect causation environments outside of sociative causation. According to S&P, this type of morpheme is instantiated by English *make*-causatives and Japanese *sase*-causatives. The other type is manifested by the *aw* causative in Marathi, which can render both direct and sociative causative meanings to the exclusion of indirect causation. This is schematically represented in (68):

(69) | direct | joint-action   assistive   supervision | indirect |

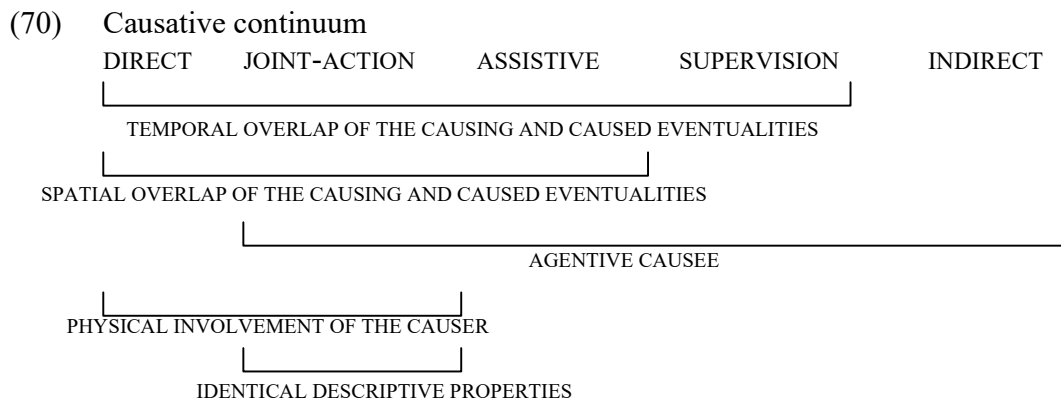   *AW*   *MAKE*, *SASE*

IncT offers a simpler and more restrictive picture of the causative landscape and is therefore to be preferred if it provides the same or better empirical coverage as (67). In what follows, I will review both types of evidence for the causative continuum in more detail. The rest of this section aims at showing that semantic facts S&P take to motivate the 'continuum view' are at least as efficiently accounted under IncT as under (67). Sections 5.3-5.4 addresses morphosyntax of sociative causatives. There, I present evidence that will hopefully show that IncT is better suited for accounting for the attested patterns of cross-linguistic variation than (67).

5.2. Causative continuum vis-à-vis incrementality

Unlike the incrementality theory outlined above in which the basic causative meanings, I-CAUSE and G-CAUSE, stay in the subset relation, S&P crucially rely on the direct and indirect causal relations that are totally disjoint. Taking this assumption as a starting point, S&P build up a semantic argument for the 'causative continuum' in (52) which involves two steps. First, they identify "prototypical" cases of direct and indirect causation. Secondly, they show that sociative semantics matches neither of them neatly, being a combination of properties from both prototypes.

In (50a-c) from Section 4, a number of characteristics that tell different types of causal relations apart were identified. Their distribution across different types of causatives according to S&P is shown in (70):

(70)　Causative continuum
　　　　DIRECT　　JOINT-ACTION　　ASSISTIVE　　SUPERVISION　　INDIRECT

　　　　└───┘
　　　　　TEMPORAL OVERLAP OF THE CAUSING AND CAUSED EVENTUALITIES
　　　└────────────────────────────────┘
　SPATIAL OVERLAP OF THE CAUSING AND CAUSED EVENTUALITIES
　　　　　　└──┘
　　　　　　　　　　　　　　AGENTIVE CAUSEE
　　　└──────────────────────┘
　PHYSICAL INVOLVEMENT OF THE CAUSER
　　　　　　└──────────────┘
　　　　　　IDENTICAL DESCRIPTIVE PROPERTIES

One of such properties is Spatiotemporal profile in (50a) above. S&P 2002:89-91 observe that in direct, but not in indirect causation causing and caused events add up to an eventuality with a single spatiotemporal profile, (71):

(71)　The ultimate defining feature of direct and indirect causation is the spatiotemporal configuration of the entire causative event… The notion of direct causation emanates from conceptualization of a causative situation as involving the same spatiotemporal profile for the causing event segment and the caused-event segment… Indirect causation, on the other hand, refers to conceptualization of a causative situation as involving two relevant sub-events that have two distinct temporal profiles and two potentially distinct spatial profiles. (S&P 2002: 90)

In terms of temporal overlap between causing and caused eventualities, all sociative causatives are therefore aligned with direct rather than with indirect causatives. With respect to the spatial overlap, supervision causatives fall within the same class as indirect causatives, since the spatial profiles of the two event segments may be distinct. The other types of sociative causation pattern together with direct causation.

Another property is Agentivity in (50b). In indirect causation, both causer and causee are agents. In direct causation, the causee has to be a patient.

(72)   It is a good **first** approximation to define direct causation as a situation involving an agentive causer and a patientive causee and indirect causation as one involving two agentive participants, one an agentive causer and the other an agentive causee. (S&P 2002: 89)

With respect to this characteristic, S&P indicate, sociative causation patterns together with indirect causation, since an eventuality description typically involves two agentive participants.

Direct causation presupposes that the causer gets physically involved in the execution of the caused event   (S&P 2002: 89), which is not the case for indirect causation. **Contact/manipulation in** (50c) thus separates direct, assistive and joint-action causatives from supervision and indirect causatives:

(73)   Both joint-action and assistive sociatives entail **physical involvement** <emphasis added — S.T.> of the causer in the caused event, just like direct causation. Supervision sociatives, on the other hand, are much more similar to indirect causation in that the causer and the causee may be physically separated…

Finally, joint-action causatives are singled out, as S&P (2002: 97) put it, by whether "the causer performs the same action as the causee in executing the caused event" or, according to Dixon 2000: 73, by whether "the causer is also involved in the activity (in addition to the causee)". To put in differently, what tells the joint-action reading joint apart from everything else is whether the descriptive properties of the causer's activity are identical to those of the caused eventuality.

IncT differs from the continuum view in a number of ways. The most substantial difference is that IncT assumes the privative opposition between I-CAUSE and G-CAUSE rather than the equipollent opposition between direct and indirect causation. This distinction is reduced to the existential vs. universal quantification over the members of a causal chain. As such, these two options exhaust the logical space and do not allow for intermediate cases. Therefore, the inventory of causal meanings available for grammatical encoding cross-linguistically consists of just two options, I-CAUSE and G-CAUSE. Both can be further restricted by INCR. Sociative causation is thus a way of narrowing down the range of possibilities associated with I-CAUSE and G-CAUSE, but not a separate meaning (or a family of meanings) on its own.

I believe that the semantic characteristics of sociative causation S&P isolate are effectively captured under the incrementality theory, which minimally means that S&P's observations do not make "the causative continuum" approach absolutely inevitable.

First, consider temporal overlap between the causing and caused eventualities. This characteristic falls out from the semantics in (51)-(52) with no extra effort. No matter whether INCR is taken to strengthen I-CAUSE or G-CAUSE, its definition in (31)-(32) guarantees that

that (contextually relevant parts of) the two eventualities are temporally co-extensive. S&P's "temporal overlap" property follows.

Secondly, INCR does not say anything about spatial overlap of the two eventualities. The prediction is therefore that whether a causative can describe two causally related but spatially disconnected eventualities will be determined by the properties of the I-CAUSE and G-CAUSE relations INCR combines with, not by INCR itself.

For G-CAUSE, spatial disconnectedness should be readily available, since nothing in its semantics forces the two eventualities to occur within the same spatial region. For languages like Tatar, one would therefore predict that sociative causatives of unergatives and transitives, which independently require G-CUASE, would allow for the spatial dislocation of the subevents under INCR. The prediction seems to be borne out. Consider the initial example in (5) under the scenario in (74), which satisfies the INCR requirement by making the subevents temporally co-extensive. The two events are nevertheless spatially disconnected:

(74)   The trainer supervises running, making comments and suggestion, by watching how Marat runs on a TV screen and talking to Marat on the phone.

According to the speakers' judgements, on this scenario, (5) is readily available.

With I-CAUSE, the causing eventuality comprises the whole causal chain including the maximal element, the caused eventuality. This leaves little room for the two eventualities to occur in different segments of physical space. One class of scenarios that facilitates a reading of this type for direct causatives involves the agent who manipulates a mechanism at a distance that performs a required action. This can be illustrated by (22)-(23) on the scenario in (75):

(75)   The stove is connected to the internet and can be operated by an app on a smartphone. Alsu starts the app, sets the temperature and other parameters and watches what is happening to the butter on the screen.

The speakers who can access a world where such a scenario is real, judge both direct causative in (22) and sociative causative in (23) appropriate under (75). These judgments are predicted by the analysis: if sociative causative only adds incrementality to I-CAUSE, once the direct causative is accepted under (75), so should the sociative causative (as long as INCR is contextually satisfied).

These observations suggest that spatiotemporal overlap or its absence does not argue for the causative continuum more than for the IncT.

Another property of sociative causatives, according to S&P, is an agentive causee. Here again, the incrementality theory of sociative causation suggests that there is nothing in the sociative semantics itself that forces the causee to be either agentive or non-agentive. Rather, one expects that a causative construction will contain whatever type of causee independently licensed in a given configuration. In Tatar, if an unergative verb like 'run' undergoes causativization, the causee (= the external argument of 'run') is an agen. The causative is interpreted via G-CAUSE; the contribution of sociative causative is incrementality, but it does not affect thematic relations required by the configuration. Therefore, the involvement of the two agents in examples like (5) comes as no surprise.

On the other hand, a sociative causative can be based on an unaccusative verb, which is the case with 'boil' in Tatar in (22)-(23). The single causative in (22) only involves one agentive

nominal, the causer, and so is the sociative causative in (23). The latter does exhibit what IncT takes to be a defining characteristic of sociative causatives, namely, incrementality. I conclude, therefore, that IncT predicts agentivity of the causee at least as well as the causative continuum theory.

The same reasoning applies to the next property that figures in (70): physical involvement of the causer into an eventuality she brings about. Again, the prediction is that in sociative causative the degree of the causer's involvement is the same as presupposed by the I-CAUSE or G-CAUSE relations in the absence of incrementality. If the causer in direct causatives must be physically involved into bringing about a change of state of the theme, the same has to be the case with a corresponding sociative causative.

However, while it is typically assumed that physical involvement is indeed a hallmark of direct causation, this assumption has recetly been doubted by Neeleman and van de Koot (2012). Taking up Katz's (1970) sheriff and gunsmith example, they indicate that (76) is felicitously utterable by a gunsmith who had faultily repaired the sheriff's six-shooter, which resulted in the weapon having jammed at a critical moment and the sheriff having been gunned down. Under this set up, the agent is separated from the caused event in space and time, hence cannot be physically involved in the sheriff's death.

(76)   I killed the sheriff!

I believe that (72) does not necessarily argue against immediate causation being a component of the meaning of 'kill', contrary to what Neelman and van de Koot suggest. It does argue against the causer's obligatory involvement into a caused eventuality, however.

Assume that 'kill' is based on I-CAUSE and consider an event predicate in (77), which can be taken to be the denotation of the constituent that includes all subeventual content of a predicate but lacks the external argument:

(77) $\| [_{v'} v+\text{kill} [_{VP} \text{kill} \text{ the sheriff}]] \| = \lambda e. \exists e'[\text{I-CAUSE}(e')(e) \wedge \text{die(sheriff)}(e')]$

(77) is a property of events that immediately cause an event of sheriff's dying. The definition of I-CAUSE says that such events are the sum of all events in the causal chain leading to sheriffs death. On the scenario provided, one gets (78):

(78)   For every e from the (contextually restricted) extension the predicate in (77),
        $e = e_1 \oplus e_2 \oplus e_3 \oplus e_4$
        where e_1 = a gunsmith faultily repairs the sheriff's six-shooter
               e_2 = the six-shooter jams
               e_3 = the enemy shoots the sheriff down
               e_4 = the sheriff dies
        other (irrelevant) causes being disregarded.

The interpretation of the v' therefore allows a completely coherent I-CAUSE construal. The question now is whether the external argument can be projected as the causer of $e = e_1 \oplus e_2 \oplus e_3 \oplus e_4$, as in (79):

(79) $\| [_{vP}$ I v+kill $[_{VP}$ ~~kill~~ the sheriff] $\| = \lambda e. \exists e'[\text{causer(the.speaker)}(e) \land \text{I-CAUSE}(e')(e) \land \text{die(sheriff)}(e')]$

(79) says that the speaker (=the gunsmith) is the causer in the whole e, which leads to the patient's death. But on the scenario we are dealing with, he is not thematically related to every subevent of e, namely, to e_2, e_3, and e_4. The gunsmith is only the agent of e_1. For (73) to come out as a special case of a direct causative, therefore, there must be a way of projecting the agent of e_1 as the causer of e.

Now consider an alterative assumption: 'kill' is based on G-CAUSE. If this is the case, (76) would be analyzed as (80):

(80) $\| [_{vP}$ I v+kill $[_{VP}$ ~~kill~~ the sheriff] $\| = \lambda e. \exists e'[\text{causer(the.speaker)}(e) \land \text{G-CAUSE}(e')(e) \land \text{die(sheriff)}(e')]$

In (80), eventualities related by G-CAUSE will, in particular, be e_1 from (78), the faulty repair of the six-shooter, and e_4, the sheriff's death. Unlike I-CAUSE, which has to hold of e = $e_1 \oplus e_2 \oplus e_3 \oplus e_4$ and e_4, G-CAUSE can hold just of e_1 and e_4, so the problem of the gunsmith not being the agent in e_2 and e_3 never appears.

The fact that (76) is licit can thus support two quite distinct generalization. First, verbs like 'kill' denote G-CAUSE rather than I-CAUSE, and their right analysis looks as (80). This is Neeleman and van de Koot's conclusion, if I understand their proposal correctly; as an alternative to immediate causation they propose the notion of crucial contributing factor as underlying all types of causatives.

Secondly, 'kill' and similar verbs are direct causatives, as (79) suggest, but even under direct causation the agent of the initial element in a causal chain can be construed as the causer of the whole causing eventuality (see also Thomason 2014 for relevant discussion).

Crucially, no matter which of these viewes proves correct, the notion of physical involvement should not be taken to distinguish between I-CAUSE and G-CAUSE. If 'kill' is not a direct causative, direct causatives are probably not empirically real at all, and distinguishing between the two relations becomes irrelevant. If, on the other hand, 'kill' should still be analysed as involving I-CAUSE, along the lines of (79), it turns out that physical involvement of the agent in bringing about the change of state cannot be part of the meaning direct that all direct causatives share. As such, it will be of little use for telling direct and not-direct causatives apart, hence for building up an argument for (or against) the causative continuum.

Finally, I follow the literature in assuming that causatives are normally underspecified as to the descriptive properties of the causing subevents in most, if not all languages (Lyutikova, Tatevosov 2014). If this is correct, whether or not "the causer performs the same action as the causee" (that is, whether the descriptive properties of the causing and caused subevents are identical), cannot be part of the causative meaning, and should be treated as an inference triggered by the combination of the causal relation, contextual information, and the lexical meaning of a predicate.

To summarize, the idea that sociative causatives involve I-CAUSE/G-CAUSE strengthened by incrementality seems to make the same or similar semantic predictions as compared to S&P's causative continuum. It takes advantage in that one does not have to stipulate three distinct sociative causative meanings The apparent intermediate status of sociative causatives have much to do with the fact that INCR can be coupled, at least in languages like Tatar, with both I-

CAUSE and G-CAUSE. All one needs to say is that we are dealing with G-CAUSE or I-CAUSE, whichever licensed in a given configuration, and that the causal relation is incremental. For the rest, the causative is free to be construed in whatever possible way compatible with the common ground, world knowledge etc.

In the next section, I discuss a set of facts where the current proposal seems to fare better than the competitor.

5.3. Causative semantics and causative morphology

S&P argue that the causative continuum, repeated in (81), should be viewed as the semantic space available for grammatical encoding. Causative morphemes of individual languages can be assigned whatever combination of meanings from (81), as long as they occupy a contiguous area within this space. This latter requirement is commonly assumed by the proponents of semantic map methodology going back to Anderson 1982 (see Cysuow et al. (eds.) 2010 for a representative sample of recent work on semantic maps).

(81)   DIRECT   JOINT-ACTION   ASSISTIVE   SUPERVISION   INDIRECT

A general problem with this view the problem of overgeneration. If the grammar of a language is allowed to draw whatever possible distinctions between the meanings in (81), we expect to find languages with enormously rich inventories of causative morphemes. As the extreme case, a language should be able to associate different grammatical devices with every meaning from (81), as shown in (82).

(82) | DIRECT | | JOINT-ACTION | | ASSISTIVE | | SUPERVISION | | INDIRECT |

MORPHEME_1 MORPHEME_2 MORPHEME_3 MORPHEME_4 MORPHEME_5

Apparently, languages like (82) are unattested. However, this problem is not specific to the analysis of causativization phenomena presented in S&P. The same problem can be detected with other semantic maps as well, no matter if they represent meanings/functions of indefinite pronouns (Haspelmath 1997), modal meanings (van der Auwera and Plungian 1998) or meanings of case morphology (Narrog 2010).

Putting overgeneration aside, I believe that (81) also undergenerates. There are languages that exhibit morphological patterns that can hardly be accounted for by (81), at least in the current form. Before showing this, I will briefly review data from the languages that seem to conform with (81) and are taken to support the causative continuum.

S&P observe two basic types of causative morphemes shown in (83) from (S & P 2002: 102; Guilaume 2010: 389):

(83) | DIRECT | JOINT-ACTION ASSISTIVE   SUPERVISION | INDIRECT |

MORPHEME_1 MORPHEME_2

In (83), MORPHEME_1 conveys, according to S&P, the whole range of causal meanings to the exclusion of indirect causation. MORPHEME_2 is its mirror-image: it covers everyting except direct causation. S&P suggest that language-specific instances of MORPHEME_2 are English *make-*

causatives and Japanese *sase*-causatives. MORPHEME₁ is manifested by the *aw* causative in Marathi[14].

Guillaume & Rose (2010) present further relevant findings. They identify another type of a causative system, not discussed by S&P:

(84)

DIRECT	JOINT-ACTION ASSISTIVE SUPERVISION	INDIRECT

   MORPHEME₁   MORPHEME₂   MORPHEME₃

A language where (84) is realized is Emerillon (Tupi): "direct" (*bo-*) and "indirect" (*-okar*) causatives are distinct, and there is a designated morpheme that expressed sociative causatation (*-elo-*)[15].

Morphemes shown in (83)-(84) are fully compatible with the "causative continuum" in (81), as are their subtypes that cover smaller areas on the map, insofar as the range of meanings assigned to every morpheme forms a contiguous space.

Guillaume (2008), however, discovers one more type, which is manifested by Cavineña (Tacanan). Cavineña makes a two-way distinction, in which sociative causative meanings (MORPHEME₂ in (85), see (1) repeated as (86)) are in opposition to the direct and indirect causation, expressed by the same MORPHEME₁: and illustrated in (87):

(85)

DIRECT	JOINT-ACTION ASSISTIVE SUPERVISION	INDIRECT

   MORPHEME₁   MORPHEME₂   MORPHEME₁
   -mere ~ -sha   *-kere*   *-mere ~ -sha*   Cavineña
   -ter-   *-ter-t-*   *-ter-*   Tatar

(86) Epuna-ra-tu   ara-mere-wa   misi   tu-ja   ebakwa
      woman-ERG-3SG   eat-CAUS-PERF   tamale   3SG-GEN   child
      'The woman fed the child with tamale.'

(87) E-ra-tu ara-kere-chine   torta   Don   Fransisco.
      1SG-ERG-3SG   eat-CAUS.SOC-REC.PAST   cake   Mr. Francisco
      'I had Mr. Francisco eat a cake with me'

---

[14] Besides, S&P mention the *jiào* causative in Mandarin Chinese and *mbo/mo* causative in Guarani. According to them, *jiào* can render indirect and supervision causation but not joint-action, assistive and direct causation. *mbo/mo* is said to be only available under direct, assistive and joint action construals. I was unable to verify these generalizations. S&P themselves only cite one example from Mandarin Chinese, where *jiào* instantiates the supervision reading, and no examples from Guarani at all. They do not provide illustrations of the unavailability of *jiào* and *mbo/mo* in other types of causatives. Nor could I find evidence in favor or against these claims in other sources. Specifically, Velázquez-Castillo's (2002) survey of Guarani, based on 54 non-elicited tokens, does not provide any negative material showing conclusively that *mbo/mo* is incompatible with the supervision and indirect causation readings.

[15] Guillaume & Rose (2010:389) claim that the sociative causative in Emerillon can only have the joint-action meaning, but provides no negative data in support of this claim. Rose (2003), on the other hand, cites a few examples indicating that the causative in question may be less restricted than G&R assume (see especially her (873) on p. 378, (1128) on p. 449, (1195) on p. 474). In (84), I depart from G&R in taking this morpheme to be associates with the whole domain of sociative causation.

If the understanding of the Tatar system laid out above is correct, Tatar falls under this type, too. It employs the same morpheme in all causative configurations, hence TYR has the distribution of MORPHEME$_6$. MORPHEME$_7$, which conveys sociative causation, is what was called above 'fake causative', a combination of two TYR's corresponding to one causing subevent.

The pattern in (85) is more problematic for S&P for two reasons. First, (85) breaks the fundamental contiguity principle that separates possible semantic maps from impossible ones. If two meanings are connected to a certain morphosyntactic device, all meanings located in between must be connected to the same device, which is not the case in (85).

Secondly, and more significantly, (85) has little if anything to say about the two modes of expressing sociative causation that separate Cavineña and Tatar. Where Cavineña makes use of designated morphology, Tatar duplicates morphology found in plain causatives. Why? I do not see a straightforward way of deriving this pattern from the causative continuum in (81). I believe that it is at this point that IncT starts showing certain empirical advantages as to accounting for the Cavineña and Tatar pattern in (85).

In Sections 3-4, I have proposed that sociative causation consists of two ingredients: a causal relation independently required in a given configuration and incrementality. As is implied by Radical Predicate Decomposition, both appear under the Akt head, which, semantically, contributes descriptive properties of a relation between subevents introduced by the higher and lower v's in (88):

(88) vP

    trener v'

          v AktP

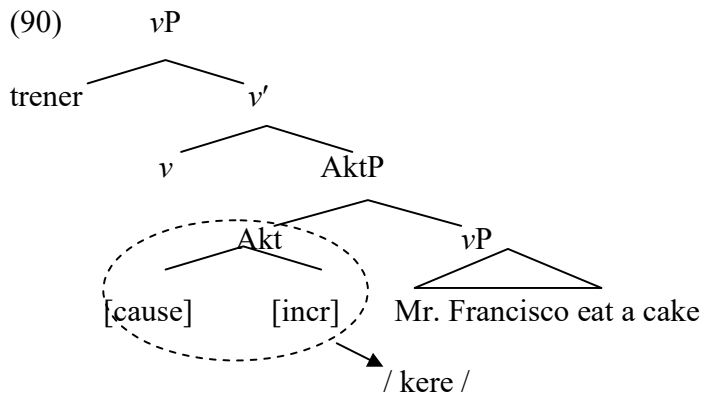   Akt vP

      [cause]   [incr]   Marat jeger
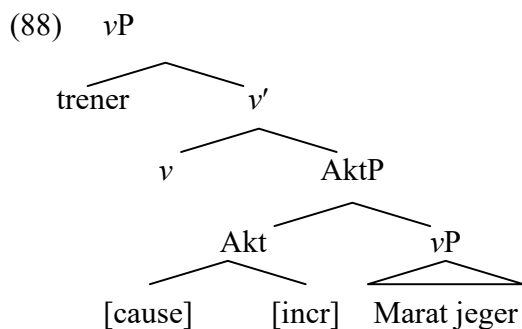
With this setup, the pattern observed in Cavineña and Tatar stops looking surprising. On the assumption that sociative causation is reduced to a configuration like (88), one would expect the way the complex Akt head in (88) is spelled out will divide languages into two major types in (89), which seem to exhaust the range of logical possibilities.

(89)   a. Type 1 languages: the complex [$_{Akt}$ [incr] [cause]] head receives a designated spell-out.
b. Type 2 languages: each component of [$_{Akt}$ [incr] [cause]] is spelled out by different lexical items. Since one of the components is [cause], it has to be spelled out by the "causative morphology" independently attested in a language.
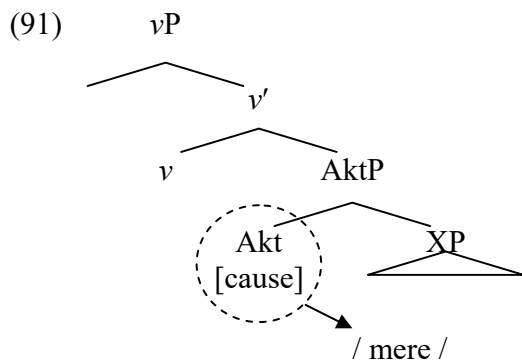
Therefore, the source of cross-linguistic variation is whether a language chooses to convey the combination of [cause] and [incr] by a single piece of morphology or to associate each element with its own morphological exponent.

Cavineña is clearly a type 1 language: sociative causation is expressed, as (85) indicates, by the morpheme not found elsewhere. If lexical items are not required to be inserted into a terminal

node, but are allowed to spell out larger chunks of structure, as, for example, on the nanosyntactic approach to syntax-phonology interface (Starke 2010 and much further work), the Cavineña sociative causative would be analyzed as in (90):

(90)

```
              vP
           /      \
      trener       v'
                 /    \
               v       AktP
                     /      \
                  (Akt)      vP
                  /    \     /  \
            [cause]  [incr]  Mr. Francisco eat a cake
                        \
                        / kere /
```
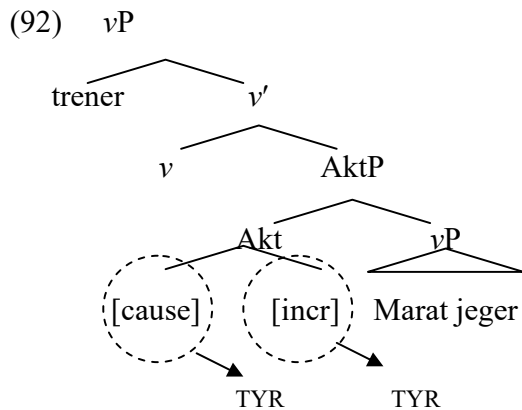
A simplex Akt only containing the [cause] feature is spelled out by another morpheme, as in (91). Depending on whether [cause] is interpreted as G-CAUSE or I-CAUSE, one will get what Guillaume 2010 describes as direct and indirect causative, MORPHEME₆ in (85). Whether this choice is determined by something like (61) in Tatar, or by some other considerations does not bear on the analysis.
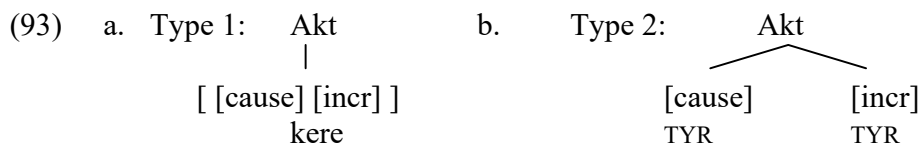
(91)

```
              vP
           /      \
                    v'
                  /    \
               v       AktP
                     /      \
                 (Akt)       XP
               [cause]      /  \
                    \
                    / mere /
```

Note that the morpheme that spells out the complex [Akt [incr] [cause]] head in Type 1 languages, (90), has to be phonologically distinct from non-sociative causative morphology, (91), since otherwise plain and sociative causatives would be indistinguishable.

Tatar is an instance of a type 2 language: both elements of Akt in (92) are spelled out independently. Moreover, since the only available piece of Akt morphology is the TYR morpheme, it shows up twice:

(92)   *v*P
```
        vP
       /  \
   trener   v′
          /  \
         v    AktP
             /    \
           Akt     vP
          /  \     /  \
   [cause]  [incr]  Marat jeger
        ↓      ↓
       TYR    TYR
```
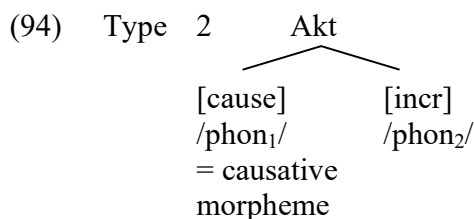
For the rest, Tatar is exactly like Cavineña. In the absence of the [incr] feature, Akt is uniformly spelled out by TYR.

(90)-(92) is in line with the nanosyntactic theory of spell-out (Starke 2010 and much further work). An alternative compatible with the view that a lexical item cannot correspond to more than one terminal node in a tree would be to say that [incr] and [cause] form a feature bundle in Type 1 languages, but not in type Type 2 languages. For Type 2 languages, the configuration as in (93b) obtains, identical to (92). But for Type 1, one morpheme gets associated with a single terminal node with a complex feature matrix, as in (93a).

(93)   a.   Type 1:   Akt   b.   Type 2:   Akt
                         | /   \
                 [[cause] [incr]]   [cause]   [incr]
                       kere   TYR   TYR

Whatever alternative proves to be correct, I believe that the overall line of reasoning laid out above will stay intact.

In the Type 2 configuration the element spelling out the [cause] part of the complex Akt head is expected to be one that occurs elsewhere as a causative morpheme available outside of sociative causation environments. No restrictions are imposed on the [incr] part, which can but does not have to phonologically realized by the same morphological element. Tatar happened to develop the pattern where the two are identical, and a single exponent of Akt spells out both parts. This can, but does not have to be the case. With (88), one may expect to encounter another variety of Type 2 languages, which are like Tatar in all relevant respects except for one. In such a language, the [incr] component would be associated with its own morphological exponent, and a complex sociative causative marker would consist of a regular causative morpheme and something else, as shown in (94):

(94)   Type   2   Akt
                        /   \
                 [cause]   [incr]
                 /phon$_1$/   /phon$_2$/
                 = causative
                 morpheme

A possible candidate for instantiating this variety of Type 2 may be Tapiete, a Tupi-Guarani language spoken in Argentina. González (2005:171) cites two minimal pairs, where the sociative causative looks exactly as (94) predicts. One of them is reproduced in (95)-(96):

(95)   a-mi-ñani
        1SGAC-CAUS1- run
        'I make him run.'

(96)   a-mi-ri-ñani
        1SGAC- CAUS1- COM- run
        'I make (him/her) run and I run with (him/her)'

(95) is a non-direct causative in which the affix *mi-* occurs. In the sociative causative in (96), the same affix appears in combination with *-ri-* "the comitative morpheme". According to Gonzáles, sentences like (96) "separately convey the causative meaning through prefix mbi- ~ mi- 'CAUS1' and the comitative meaning through prefix *ri-*". Up to terminological difference, this characterization fits neatly into the view presupposed by (94).

I believe to have shown that IncT outlined in Section 4 offers, with a few supplementary assumptions about the syntax-morphology interface, a comprehensive explanation for what have been problematic for the causative continuum view. For one thing, it successfully captures the distribution of the causative morphology in languages like Tatar, Cavineña, and Tapiete. Under (85), one had to assume that the same morphology marks discontinuous areas on the semantic map. Under the proposed view, this pattern comes as no mystery. A languages can mark a causal relation in a certain way. Strengthening this relation by incrementality can result in a different morphological marking, which is drawn from a rather restricted set of options. Since the sociative causative is decomposed into two elements, both being instances of a complex Akt head, either both of them are spelled out by the same piece of morphology, as in Cavineña, or each is associated with its own exponent. If the latter is the case, one option is to duplicate the only causative morpheme of the language (as in Tatar, where instances of Akt are not unexpectedly spelled out by two instances of TYR) or to use it in combination with something else, as in Tapiete.

In the final subsection of this section I will go back to the English and Marathi data in (83) and discuss how they fit into the proposed system that assumes the basic distinction between G-CAUSE and I-CAUSE which can both be strengthen by INCR.

5.4. Reducing variation

The distribution of the morphemes discussed in this section is shown in (82), repeated as (92):

(97) | DIRECT | JOINT-ACTION ASSISTIVE   SUPERVISION | INDIRECT |

      MORPHEME₁   MORPHEME₂

S&P propose that Elglish make-causatives as well as a class of Japanese *sase*-causatives (and lots of other grammatical devices with the same distribution found in a variety of languages) are

manifestations of MORPHEME₂. They are four-way ambiguous between 'indirect', 'supervision', 'joint action' and 'assistive'. I argue that nothing in what we know about the meaning and distribution of these causatives is incompatible with the alternative: both are exponents of the G-CAUSE relation.

In the system I have been elaborating in this paper, the G-CAUSE relation is rather weak. It is not difficult to see that it is asymmetrically entailed by I-CAUSE, I-CAUSE ∧ INCR and G-CAUSE ∧ INCR, that is, by all the other causal relations the system can generate. This means that *make*/*sase* causatives are free to occur in any causal configuration, including sociative and direct ones. Restrictions on their distribution, if any, may emerge due to (pragmatic) strengthening of G-CAUSE triggered by the competition with (lexical) causatives associated with more specific causal relations. So if my proposal is on the right track, the distribution of the MORPHEME₂ depicted in (97) results from two sources. First, in direct contexts G-CAUSE is blocked by I-CAUSE even though, strictly speaking, sentences *John opened the door* and *John made the door open* are both true on the scenario where the agent changes the state of the door by pulling the handle. Second, availability of *make*/*sase* casuatives in "sociative" contexts is a product of underspecification, not of multiple ambiguity. S&P's JOINT-ACTION, ASSISTIVE, SUPERVISION, and INDIRECT are all subsets of G-CAUSE, hence the fact that *make* and *sase*, G-CAUSE causatives, do have these readings, comes with no surprise. Assuming that *make* and *sase* causatives are ambiguous between indirect, supervision, join-action and assistive causation comes close to saying that 'black cat', 'white cat', 'pink cat' and so on are separate "readings" of the same morpheme whose exponent is /kʰæt/.

Unlike MORPHEME₂, which is found in quite a lot of genetically and areally unrelated languages, MORPHEME₁, as far as one can conclude from S&P's discussion, has only been attested in Marathi and Korean. According to S&P, in Marathi MORPHEME₁ is instantiated by the *-aw-* causatives, which occur in two types of environments. First, *-aw-* offers a regular way of deriving direct causatives of unaccusatives, some of which are illustrated in (98):

(98)   *aaT-Ne* 'to get shrunk'   *aaT-aw-Ne* 'to shrink something'
       bhidz-Ne 'to get wet'   *bhidz-aw-Ne* 'to wet something'
       suk-Ne 'to become dry'   *suk-aw-Ne* 'to dry something'
       ghaabar-Ne 'to get frightened' *ghaabar-aw-Ne* 'to frighten someone'
       paT-Ne 'to get convinced'   *paT-aw-Ne* 'to convince someone'

When combined with unaccusatives, the *-aw-* morpheme does not exhibit any systematic semantic restrictions. Specifically, it does not have to derive an incremental predicate.

Secondly, it can combine with unergatives and transitives (modulo lexical restrictions) but in that case one of the sociative meanings, according to S&P, becomes obligatory.

(99)   *tsaal-Ne* 'to walk'   *tsaal-aw-Ne* 'to make someone walk'
       kheL-Ne 'to play'   *kheL-aw-Ne* 'to make someone play'
       mut-Ne 'to urinate'   *mut-aw-Ne* 'to make someone urinate'
       paL-Ne 'to run'   *paL-aw-Ne* 'to make someone run'

To get a non-sociative causative of unergatives and transitives one has to employ a separate periphrastic causative construction. The obligatoriness of the sociative meaning for the *-aw-* causatives like (99) is illustrated in S&P with two examples in (100)-(101):

(100)   shaam-ne   raam-laa   don   kilomiTar   paL-aw-l-a   (Sociative)
        Sham-ERG   Ram-DAT   two   kilometer   run-CAUS-PERF-M

        *paN   shaam raam-barobar paL-l-aa   naahi.
        but   Sham   Ram-with   run-PERF-M   not
        'Sham made Ram run two kilometers but he did not run with Ram.'

(101)   shaam-ne raam-laa   don   kilomiTar   paL-aayla   laaw-l-a   (Indirect)
        Sham-ERG Ram-DAT two   kilometer   run-PTCP   make-PERF-M
        paN   shaam raam-barobar paL-l-aa   naahi.
        but   Sham   Ram-with   run-PERF-M   not
        'Sham made Ram run two kilometers but he did not run with Ram.'

The pattern in (100)-(101), recently discussed in detail in Pardeshi 2016, if proven to be observationally correct, may be problematic for IncT, since the range of environments it can occur in does not form a natural class. If in Marathi, as in the languages like Tatar, causatives of unergatives and transitives employ G-CAUSE, while causatives of unaccusatives are based on I-CAUSE, then INCR mysteriously becomes an obligatory meaning component if it strengthens G-CAUSE, but not if it combines with I-CAUSE. To put it differently: the -aw- morpheme spells out the relations {I-CAUSE, G-CAUSE ∧ INCR} to the exclusion of the non-incremental G-CAUSE. An account for this distribution under the IncT does not follow straightforwardly. The causative continuum view might have been preferred, since the range of meanings associated with the -aw- morpheme occupies a convex area in (97).

A superficially similar pattern obtains in Korean, where, as Shibatani & Chung (2002) claim, the morpheme -i/-hi/-li/-ki occurs in direct and sociative environments. The latter is represented by examples like (102)-(103), which are taken to illustrate assistive and supervision readings, respectively.

(102)   emeni-ka   ai-eykey   kulca-lul   hanahana   ciphe-ka-mye
        mother-NOM   child-DAT   letter-ACC   one-by-one   point-go-while
        chayk-ul   ilk-hi-ess-ta.
        book-ACC   read-CAUS-PAST
        'Mother made the child read the book by pointing to the letters one-by-one.'

(103)   emeni-ka   ai-ekey   nayng   pang-eyse   chayk-ul   ilk-hi-ess-ta.
        mother-NOM   child-DAT   cold   room-in   book-ACC   read-CAUS-PAST
        'Mother made the child read a book in a cold room.'

Shibatani & Chung comment on (103): "the example is likely to be interpreted as depicting a situation where the mother sent the child to a cold room to read a book there as a punishment. The mother herself is not in the cold room, but in all likelihood she is keeing a watchful eye on the child and sees to it that it remains in the cold room reading".

I believe, however, that fortunately for my proposal the conclusions which examples in (100)-(103) are taken to support, may be premature.

In Marathi, on a closer examination, one discovers suggestive evidence that -aw- is not restricted to sociative contexts when combined with transitives and unergatives. Relevant

examples can be found as early as in Wali 1981. More recently, such examples are duplicated in the reference grammar Dhongde, Wali 2009[16].

For one thing, there are plenty of examples where no flavor of sociative causation can be detected for *-aw-* causatives of transitives, as in the following minimal pair:

(104) tya-ne   čeṇḍu   phek-la.
   he-ERG   ball-MSG   throw-PERF-MSG
   'He threw a ball.'

(105) tya-ne   maǰha-kədun   čeṇḍu   phe-əw-la.
   he-ERG   I-POSS-PP(INST)   ball-MSG   throw-CAUS-PERF-3MSG
   'He made me throw the ball.'

Besides, *-aw-* is found in a double causative configuration, illustrated in (106):

(106) mini-ne   lili-kədun   babu-ce-kərəw i   kam   kər-əw-əw-l-ə.
   Mini-ERG   Lili-by   Babu-through   work-NSG   do-CAUS-CAUS-PERF-NSG
   'Mini got Lili to do the work through Babu.'

(104)-(105) look like regular G-CAUSE environments, and *-aw-* in such environments does not seem to force incrementality. Furthermore, had the sociative meaning been obligatory when *-aw-* merges with a transitive vP, (106) would have been very semantically remarkable by being a double sociative causative. The most external causer, Mini, would have incrementally caused the intermediate causer, Lilim to incrementally make the causee, Babu, do the work. While this scenario is apparently not inadmissible for (106), nothing suggests that it is obligatory.

This makes the *-aw-* morpheme look much more similar to TYR in Tatar, a piece of morphology that shows up in all causative environments, be they direct or non-direct. If *-aw-* is generally available in G-CAUSE environments, it comes with no surprise that it can occur in G-CAUSE incremental environments – for the same reason as *make* and *sase*-causatives discussed above. This seems to suggest that the inappropriateness of (100) should stem from some source other than sociative causation, since it would be extremely difficult to explain why the sociative meaning must be part of (100), but not of (106).

Turning to Korean, evidence suggesting that the *-i/-hi/-li/-ki* morpheme instantiates MORPHEME₁ from (97) seems to be inconclusive. I believe that the data presented in the literature on morphological causatives in Korean is fully compatible with treating them as an exponent of I-CAUSE.

Jung (2014) offers an in-depth examination of the syntax of Korean causative constructions. She presents multiple pieces of evidence suggesting that the size of the constituent taken by the causative head as a complement is very small. Even if the *-i/-hi/-li/-ki* morpheme combines with a transitive verb, she argues, the verb stem projects the minimal amount of structure, √P. The two causative structures available in Korean, adapted from Jung 2014: 173, are shown in (107)-(108)[17]:

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[16] Dhongde, Wali 2009 use a transliteration system different from S&P. Here I cite Marathi examples as they appear in the corresponding sources.
[17] Yung follows Harley's recent work (in particular, Harley 2013) in assuming the √ — v — Voice sequence of heads as the structure of (extended) verb phrases. Throughout this paper the √ — v part is represented as a (lexical) V, whereas Voice corresponds to v. The structures in (107)-(108) differ, according to Jung, as to whether the causee

(107) [$_{\text{VoiceP}}$ DP$_{\text{CAUSER}}$ [$_{v\text{P}}$ [$_{\sqrt{\text{P}}}$ DP$_{\text{CAUSEE}}$ DP$_{\text{THEME}}$ √] *-i/-hi/-li/-ki*] Voice]

(108) [$_{\text{VoiceP}}$ DP$_{\text{CAUSER}}$ [$_{\text{ApplP}}$ DP$_{\text{CAUSEE}}$ [$_{v\text{P}}$ [$_{\sqrt{\text{P}}}$ DP$_{\text{THEME}}$ √] *-i/-hi/-li/-ki*] Appl] Voice]

Crucially, no further functional structure can be projected within the complement of the causative morpheme, neither *v*, nor Voice. If the size of the complement correlates the way the causative morphology is interpreted (which, at any rate, seems to be a necessary assumption at least for the languages like Turkic, see (61a-b)), then it is exactly configurations like (107)-(108) where I-CAUSE has to be called for.

This suggestion is reinforced by diachronic evidence discussed in Park (1994). He indicates that the potential of the morphological causative to be used in G-CAUSE environments has declined in the past few centuries. The relevant contrast between modern Standard Korean and Middle Korean is illustrated by the paradigm in (109a-d) from Park 1994: 42-43:

(109) a. seng   pakk-ey ilkop cel   il-e,   cwung   sal-i-si-ko.
city.wall   outside   seven   temple make-and monk   live-CAUS-HON-and
'[He] made seven Buddhist temples outside the city wall, and made Buddhist priests live [there].'

    b. *Inho-ka   Mina-lul   L.A.-ey   sal-li-ess-ta.
Inho-NOM   Mina-ACC   L.A.-in   live-CAUS-PAST-IND
'Inho made Mina live in L.A.'

    c. Kim   paksa-ka   ku   hwanca-lul   sal-li-ess-ta.
Kim   Dr.-NOM   the   patient-ACC   live-CAUS-PAST-IND
'Dr. Kim saved the patient's life.' (Lit. 'made the patient live.')

    d. Inho-ka   Mina-lul   L.A.-ey sal-key   ha-yss-ta.
Inho-NOM Mina-ACC   L.A.-in   live-COMP   CAUSE-PAST-IND
'Inho made Mina live in L.A.'

The morphological causative from Middle Korean in (109a), where the causation is non-direct, is unavailable in the Standard Korean, as (109b) shows. This morphological causative only facilitates the direct interpretation 'save life' in (109c), whereas for 'make live in L.A.' a different causative construction has to be used, (109d).

There are, however, examples like (103), which instantiate the supervision reading, according to Shibatani and Chung 2002. The plausibility of the analysis of the *-i/-hi/-li/-ki* morpheme as an exponent of I-CAUSE crucially depends on whether (103) can be subsumed under immediate causation. There are reasons to believe that the answer is positive.

Suggestive evidence comes from the range of interpretions of lexical causatives, that is, verbs that lexicalize causally related subevents with no causative morphology involved. A robust generalization going back to the early years of the study of causativization phenomena (e.g. Nedjalkov, Sil'nitskij 1969, Fodor 1970) is that such verbs entail I-CAUSE (cf. Bittner 1999 on

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forms a constituent with the theme that merges as the complement of the causative morpheme or appears as an argument of the Appl head outside of *v*P.

concealed causatives, see the discusstion in Martin, Schäfer 2014:239). If this generalization is correct and if lexical causatives allow for scenarios like (103), this would indicate that I-CAUSE in itself is not incompatible with what S&P and others call supervision readings. There will be no obstacles, then, in analyzing the *-i/-hi/-li/-ki* morpheme in terms of I-CAUSE.

Russian is a languages in which morphological causativization is absent altogether. Lexical causatives, however, are readily available, and at least some of them allow for 'supervision' scenarios with no effort at all:

(110)   Volodja   vygul-iva-et   sobak-u
        V.   walk-IPFV-PRS.3SG   dog-ACC
        'Volodja is walking his dog.'

In (110), the transitive verb *vygulivat'* 'walk (of a pet)' occurs. It describes an eventuality in which the theme only has to walk. The causer has to minimally exercise control over the walking subevent (e.g. by keeping an eye on it), but crucially, does not have to walk with the dog. No matter how exactly such a construal gets licensed, a reasonable suggestion seems to be that exactly the same construal is available for the morphological causative of 'read' in (103) in Korean. There is thus no obstactles in treating the *-i/-hi/-li/-ki* morpheme as an exponent of I-CAUSE. Since I-CAUSE and I-CAUSE ∧ INCR stand in the superset-subset relation, this morpheme is correctly predicted to be available in S&P's "sociative" contexts, provided that semantic requirements of I-CAUSE are met. As we have just seen, examples cited in the literature on Korean seem to conform to this generalization.

This having been said, I am ready to summarize the main results of this paper in the concluding section.

6. Summary and conclusion

The main motivation for this paper was to gain a better understanding of the phenomenon of sociative causation that has been attracting increasing attention over past few years. Relying mostly on the data from Tatar, a Turkic languages spoken in Central Russia, I suggested that sociative causation can be reduced to the incremental relation between causally related eventualities. This hypothesis accounts straightforwardly for the speakers' judgments about the meaning of the relevant causative construction in Tatar, for the implicatures that tend to be associated with this construction and for a number of semantic restrictions on its distribution.

After motivating incrementality as the defining ingredient of sociative causation I laid out my assumptions about the morphosyntax of the causative construction, which relies on Radical Predicate Decomposition. RPD assumes that relations between subevental components of event structure come out as syntactic projections, AktPs, distinct from *v*P and VP. (The role of the latter is limited to introducing subevent descriptions.) AktPs bear features that determine which particular relation, general causation (G-CAUSE) or immediate causation (I-CAUSE) an event structure will be based on. I proposed that the incrementality feature also appears under Akt and is interpreted as the INCR relation that intersectively restricts G-CAUSE and I-CAUSE, deriving two subtypes of sociative causatives.

Having outlined this theory, designated as IncT, I compared its predictions against the major existing alternative, Shibatani and Pardeshi's (2002) causative continuum theory. I have tired to convince the reader that semantic predictions of the "causative continuum" are effectively

derivable under IncT whereas morphosyntactic assumptions of IncT give it a few advantages without diminishing its empirical coverage.

Therefore, I believe to have minimally achieved the following two modest goals. Empirically, the paper contributes to identifying basic characteristics of the phenomenon of sociative causativization, hitherto not completely understood. Theoretically, it bears on the debate about the nature of meanings available cross-linguistically for grammatical encoding. The continuum view insists on these meanings forming an indiscrete, dense semantic space, and cross-linguistic data from causativization has long been taken to support this view. Upon closer scrutiny, however, the same data give certain promise as to be reducible to a rather impoverished repertoire of discrete meanings plus independently required pragmatic principles that take care of the fact that some of them asymmetrically entail the others. If the reader finds herself convinced, my goal has been successfully accomplished.

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