TOPIC AND ORDERING OF CAUSAL SEQUENCES IN CREEK

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1. Introduction. Creek (Muskogean) has two morphologically related markers of causality, *-ika* 'because' (which is suffixed to CAUSE verbs), and *monka* 'so, thus' (which sometimes introduces RESULT clauses but more commonly serves as a discourse marker with broader scope). This study is part of a larger one in which both markers are examined for morphological, syntactic, and discourse patterns. In this part of the study, I examine clause ordering in causal sequences involving the suffix *-ika* 'because' in a collection of thirty-six oral narratives. CAUSE clauses whose verbs are suffixed with *-ika* may either precede or follow their RESULT clauses. Specifically, I am concerned with the Creek equivalents of causal clause orders such as those in (1) and (2):

CAUSE RESULT
(1) Because he was hungry, I fed him.

RESULT CAUSE
(2) I fed him because he was hungry.

The order of CAUSE and RESULT clauses in Creek is dependent on topic continuity: the clause that is most topically continuous with preceding discourse will occur first. I will demonstrate that Schiffrin's (1985) operational definition of topic for English conversation, which identifies topic with clausal subject, accounts for the ordering of only 24% of the causal sequences in my Creek narrative data. However, I show that a broader operational definition of topicality that includes not only subjects but also objects accounts for the ordering of 74% of the Creek causal sequences.

In section 2, I briefly discuss the forms of *-ika*. Section 3 presents statistical evidence on topicality and ordering of Creek causal sequences as well as a discussion of Schiffrin's definition of topic and the necessary modification of that to account for the Creek data. Section 4 presents examples and explains them in light of the Creek patterns summarized in section 3. Section 5 briefly considers the implications of Creek ordering for explaining patterns of clausal ordering in English causal sequences.

2. The Forms of *-ika*. The 'because' clausal *-ika* most frequently occurs in elicited data in one of the three

constructions represented in (3)-(5):[1]

(3) ca-cafiikn-ika ay-a-ár-is
1sII-well-because go-1sI-fut-ind
'I'll go because I'm well.'

(4) ci-nokk-ii-t-on-ka tak-layk-a-árii-s
2sII-sick-st-ss-aux-because loc-sit-1sI-fut-ind
'I'll stay because you're sick.'

(5) caat-ii-t-o-k ca-yaac
red-st-ss-foc-because 1sII-want
'I want it because it's red.'

Although CAUSE clauses precede RESULT clauses in (3)-(5), they just as frequently appear after RESULTS in elicited data. In (3), *-ika* is suffixed directly to a verb stem, in (4) *-ika* appears as *-ka* suffixed to the auxiliary *om* 'be', and in (5), *-ika* appears as *-k* after the focus marker *o*. The semantic/pragmatic functions of the auxiliary *om* (Hardy 1992) and the focus marker *o* are beyond the scope of this paper. The /i/ of *-ika* deletes following any vowel and will also generally delete wherever the phonotactics of Creek allows the resulting consonant sequence. In nineteenth-century translations of large portions of the Bible, the morphological combination of the *om* auxiliary and the *-ika* CAUSE suffix appears orthographically as *omekv*, phonemically /omika/. In (4) the same combination appears phonetically as [oŋka], with the /i/ deleting and the /m/ assimilating to a velar articulation. The reduction of *-ika* to *-k* is phonologically conditioned by a preceding /o/, as in (5) and (6).

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[1]All narratives used for determining causal ordering in this paper were told by Toko Berryhill, Suzy Monday, Henry Tarpalechee, or Rev. Robert Washington in Okmulgee, OK and Morris, OK from 1988 to 1991. A grant to collect these data was provided by the Phillips Fund of the American Philosophical Society.

The three phonemic tones in Creek are a high tone /ˊ/, a falling tone /ˆ/, and an extra high tone /ˇ/. The tonal diacritics are written on the first vowel affected although the tone is spread throughout the entire syllabic peak. A raised ^{n} is used to signal vowel nasalization. The Creek affricate /c/ varies between alveolar and alveo-palatal position. The symbol *ɾ* is used for the lateral fricative /ɬ/ as in Creek orthography, which was developed in the nineteenth century and is still in use today.

Abbreviations used in this paper are as follows: *I* type I; *II* type II; *1* first person; *2* second person; *aux* auxiliary; *foc* focus; *fut* future; *ind* indicative; *loc* locative; *neg* negative; *s* singular; *ss* same subject; *st* stative.

(6) cayaayak-ay-ii-s oponakan ca-yaac-iko-k
quiet-1sI-st-ind to:talk 1sII-want-neg-because
'I'm quiet because I don't want to talk.'

3. Topicality and Ordering of Causal Clauses. Both Schiffrin (1985) and Ford (1993:90) found in their American English oral conversational data that CAUSE clauses subordinated with *because* occurred only after RESULT clauses, as in (2) above. That is, the sequence "*because* CAUSE RESULT", as in (1) above, is extremely rare in naturally occurring English conversation. Ford's data contain 75 *because* clauses and Schiffrin's 117. Altenberg's (1984:55) study of all types of causal linking in English found in a sample of 351 causal sequences with *because* CAUSE clauses that only 4, or 1%, occur before the RESULT clause. In contrast, I have found in my Creek data produced by speakers in monologic text 42 narrative CAUSE clauses suffixed with *-ika*, 17 (40%) of which occur before the RESULT clause, as shown in Table 1:

TABLE 1: Distribution of Postposed and Preposed Creek CAUSE Clauses

RESULT CAUSE-*ika*	25 (60%)
CAUSE-*ika* RESULT	17 (40%)
TOTAL	42

Although "*because* CAUSE RESULT" sequences are very rare in English conversation, English does frequently allow the CAUSE to precede the RESULT if the RESULT is marked with *so*, as in (7):

CAUSE RESULT
(7) He was hungry. So I fed him.

Schiffrin (1985:297) argues that the primary determinant of whether a speaker uses a *because* sequence or a *so* sequence in English conversation to encode a causal relationship is the enhancement of topic continuity, with "topic" being operationally defined as clausal subject. Altenberg (1984:58-61) comes to essentially the same conclusion without an operational definition of topic. Schiffrin argues that if the topic (subject) of the clause immediately preceding the causal sequence is coreferential with the topic (subject) of either the CAUSE or the RESULT, but not both, the causal sequence will tend to be ordered such that the clause with the coreferential topic will come first. Thus, (8) would be a typical sequence if the topic of the CAUSE, but not RESULT, were coreferential with the topic of the immediately preceding clause; and (9) would be a typical sequence if the topic of the RESULT, but not the CAUSE, were coreferential with the topic of the immediately preceding clause:

CAUSE RESULT
(8) Bill dropped by the house. He was hungry. So I fed him.

RESULT CAUSE
(9) I'm not a very good cook, but I fed him because he was hungry.

Table 2, adapted (in order to make our terminology similar) from Schiffrin (1985:297), presents Schiffrin's figures for causal ordering when the topic of the CAUSE or the RESULT, but not both, is coreferential with the topic of the preceding clause:

TABLE 2: English Causal Sequences and Prior Topic of Talk When the Topic of Either CAUSE or RESULT, but Not Both, Is Coreferential with Topic of Preceding Clause

	Prior Topic Coreferential with Topic of CAUSE	Prior Topic Coreferential with Topic of RESULT
CAUSE *so* RESULT	16 (67%)	10
RESULT *because* CAUSE	8	26 (72%)
TOTALS	24	36

Note $\chi^2 = 8.87$, $p < .01$

A significant majority (67%) of causal sequences in which the topic of the CAUSE is coreferential with the topic of the preceding clause is ordered "CAUSE *so* RESULT". And a significant majority (72%) of causal sequences in which the topic of the RESULT is coreferential with the topic of the preceding clause is ordered "RESULT *because* CAUSE". Thus, topic continuity is a reliable predictor of causal ordering in English conversation when the topic of either the CAUSE or the RESULT is coreferential with the topic of the clause preceding the causal sequence.

Although Schiffrin's hypothesis that causal ordering favors topic continuity with the preceding clause, given her operational definition of topic as clausal subject, accounts for 42 (70%) of the 60 sequences in which the topic of the preceding clause is coreferential with the topic of the CAUSE or the RESULT (but not both), Schiffrin has in her data an additional 154 causal sequences that cannot be accounted for by her topic continuity hypothesis for causal ordering using her definition of topic. These sequences are those in which the topics of the CAUSE and the RESULT clause are either both coreferential with the topic of the preceding clause or both non-coreferential with the topic of the preceding clause. That is, 72% of Schiffrin's causal sequences either have the same subject in the CAUSE and RESULT as the preceding clause or have subjects in the CAUSE and RESULT which, individually or together, are non-coreferential with the subject in the preceding clause (see Table 3, adapted from Schiffrin (1985:297)):

TABLE 3: English Causal Sequences and Prior Topic of Talk When the Topic of Neither CAUSE nor RESULT Is More Topically Continuous with Topic of Preceding Clause

	Prior Topic Coreferential with Topics of Both CAUSE and RESULT	Prior Topic Coreferential with Topic of Neither CAUSE nor RESULT
CAUSE *so* RESULT	22 (41%)	49 (49%)
RESULT *because* CAUSE	32	51
TOTALS	54	100

Note χ^2 = .965 (ns.), $p < .50$

As Table 3 shows, if the CAUSE and RESULT are equally topically continuous, or non-topically continuous, with the topic of the preceding clause, there is a non-significant, or approximately equal, distribution of "CAUSE *so* RESULT" and "RESULT *because* CAUSE" sequences. With the numbers of causal sequences in Tables 2 and 3 combined, Schiffrin's hypothesis that causal sequences are ordered to preserve topic continuity between the preceding clause and the first clause of the causal sequence (where topic is clausal subject) accounts for only 42 (20%) of 214 sequences.

The success of Schiffrin's hypothesis in predicting causal order when either the CAUSE or RESULT is more topically continuous and its failure in predicting causal order when neither CAUSE nor RESULT is more topically continuous suggest that a more diffuse operational definition of topic might help to predict ordering even when neither CAUSE nor RESULT is more topically continuous (under the definition of topic as subject). This revised hypothesis--that a more diffuse operational definition of topic will predict a higher percentage of causal orderings--is currently under investigation for English conversational data (Hardy and Leuchtmann, in preparation) and has interesting consequences for the prediction of causal sequencing in Creek.

Schiffrin's hypothesis that causal sequencing is dependent on topical continuity with the subject of the preceding clause will not account in a statistically significant way for the distribution of the Creek data shown in Table 1. For one thing, in my narrative data the subject of the first clause, whether RESULT or CAUSE, is coreferential with the subject of the preceding clause in only 18 (43%) of the 42 causal sequences. Second, in 8 of the 18 cases in which the subject of the first clause is coreferential with the subject of the preceding clause, the subject of the second clause, whether CAUSE or RESULT, is the same as the subject of the first clause, leaving unexplained why one clause precedes the other. Thus, Schiffrin's operational definition of topic as subject accounts for ordering in only 24%, or 10, of the 42 causal sequences in my data. The 24% success figure is comparable to the 20% success figure for all of

Schiffrin's data, including those sequences in which neither the CAUSE nor the RESULT is more topically continuous with the preceding clause.

In this study of Creek causal sequences, I operationalize not topic but *degree of topicality* of the CAUSE and RESULT clauses in a causal sequence for the following four reasons: 1) the operational definition of topic as subject is an exceedingly narrow definition of topic; 2) defining topic as clausal subject is inadequate for predicting causal ordering in English conversation if all causal sequences are included in the calculations; 3) defining topic as clausal subject does not help predict causal ordering in Creek narrative; and 4) other more generous but vague definitions of topic, such as 'elements derivable from the physical context and from the discourse domain of any discourse fragment' (Brown and Yule 1983:79, qtd. in Abraham 1991:329; cf. Altenberg 1984:58-61), are non-operational.

Specifically, I rank the topicality of each clause in a causal sequence for whether the subject referent of the CAUSE clause or the subject referent of the RESULT clause was referred to most recently in the narrative in any grammatical relation. The causal clause whose subject referent appeared most recently is ranked as more topical. This definition of degree of topicality allows for 1) topic being manifested prior to the immediately preceding clause and 2) topic being manifested in grammatical relations other than subject in the last-mention. When the subjects of the CAUSE and RESULT clauses are the same, I rank the clauses for whether their objects, whether direct or oblique, appeared last in the narrative. Thus, if the subject (and object) of the CAUSE clause appeared more recently in preceding discourse than the subject (and object) of the RESULT clause, that CAUSE clause is ranked as more topical than the RESULT clause. Conversely, the highest topicality ranking is awarded to the RESULT clause if its subject (and object) were mentioned most recently. If the subject (and object) are the same in topicality in both clauses (usually because the subjects (and objects) are coreferential in both CAUSE and RESULT), the clauses are ranked as equally topical. The results of these rankings are presented in Tables 4 and 5:

TABLE 4: Creek Causal Sequences When Either RESULT or CAUSE Has Higher Topicality

	RESULT TOPICAL	CAUSE TOPICAL
RESULT CAUSE-ika	19 (86%)	2
CAUSE-ika RESULT	3	12 (86%)
TOTALS	22	14

$\chi^2 = 18.27$, $p < .001$

TABLE 5: Creek Causal Sequences When Neither CAUSE nor RESULT Has Higher Topicality

RESULT CAUSE-*ika*	4
CAUSE-*ika* RESULT	2
TOTAL	6

Note: Total too small for valid χ^2.

The results in Table 4 support the contention that ordering of CAUSE and RESULT clauses in Creek oral narrative is sensitive to the more global, or diffuse, definition of topic continuity as, first, subject continuity with most recent mention and, second, object continuity with most recent mention. When the RESULT clause is most topically continuous with preceding discourse, 86% of the causal sequences appear as "RESULT CAUSE-*ika*" sequences. When the CAUSE clause is most topically continuous with preceding discourse, an equal 86% of the causal sequences appear as "CAUSE-*ika* RESULT" sequences. The frequencies in Table 5 are too small for chi-square testing, but it is expected that larger sampling would produce approximately equal distributions of the two causal sequences when the CAUSE and RESULT clauses are equal in topicality as topicality is defined here. In sum, the definition of degree of topicality developed here along with the hypothesis that causal sequences will be ordered to maximize topic continuity accounts for 31, or 74%, of the 42 Creek causal sequences.

4. Creek Causal Sequences and Topicality. In this section, I present examples of the patterns summarized in tables in section 3 and discuss them in light of the hypothesis that a more diffuse operational definition of topicality is needed for prediction of causal ordering.

Both Schiffrin's (1985) definition of topic as subject and my definition of more diffuse topic predict the order of the causal clauses in (10). (C in the left margin indexes the CAUSE, and R indexes the RESULT.)

(10) a. ponattataat isti pinkaliicit pasaatit apiiyitôomiis[2]
the:animals people scare:them kill:them they:go
'The animals scare people and kill them and go their way.

C b. moomâys sŏo^{n}lkiit omipika ya hasikirkoofa hayyoomi
but a:lot because:be this at:hour now
But because there are a lot of them now at this time

[2]In order to save space and because close morphological detail is not needed in this analysis, textual examples are not segmented morphologically. Relevant morphological patterns will be explained where needed.

c. afikhonniiyaat tameyn arícki**n**oowâystoowâys
as:we:sit where no:matter:you:go
where we are, no matter where you go

R d. ponatta hicaraanícki**t**ontoos
animal you:will:see
you will see an animal.'

The CAUSE clause in (10b) (*sõo^{n}lkiit omipika* 'because there are a lot of them') occurs before the RESULT clause in (10d) (*ponatta hicaraanícki**t**ontoos* 'you will see an animal'). The subject of the CAUSE clause, unmarked third-person plural 'they', is coreferential with the subject of the immediately preceding independent clause in (10a) (*apiiyítôomiis* 'they go'), which is also coreferential with the subject referent for the preceding two clauses, back to *ponattataat isti pinkaliicit* 'the animals (they) scare people'. On the other hand, the subject of the RESULT clause, 'you' (referentially the narrative addressee and signalled by the *-ícki* suffix), in (10d) is not mentioned in (10a) and indeed is mentioned nowhere else in the story. Thus, under either definition of topic, the subject of the CAUSE clause is more topically continuous with preceding discourse than the subject of the RESULT clause. Hence, (10) is an example illustrating the hypothesis that the CAUSE clause precedes the RESULT clause in order to maximize topic continuity.

Although our definitions both account for the ordering of the causal sequence in (10), Schiffrin's (1985) operational definition of topic as clausal subject cannot successfully account for the ordering "RESULT CAUSE-*ika*" in examples such as (11d)-(11e). The RESULT clause in (11d) is clearly topical since 'my father' is the referent for a possessor and an object in (11b) and (11c), but it is not the subject of the preceding clause in (11c):

(11) a. hofoonoof horrirakko hoyâanin . . .
long:time civil:war was:over . . .
'A long time ago, when the civil war was over . . .

b. raromakwaykin cakâykin ipawâlk hokkôolin . . .
fishing came:time his:uncles two . . .
When it was time to fish, his two uncles . . .

c. iiyapayáhkit sahóhyin móhwit
they:took:him they:went:with:him and
they took him with them. And

R d. carkitaat iccakocoknin oociitatiis
my:father rifle had:it
my father had a rifle

C e. horri hoyaanika
war because:it:passed
because the war was over.'

The narrative from which (11) is excerpted begins with a sentence setting the time as just after the civil war (*horrirakko* 'big war') in (11a). In the elided portion that follows (11a), the speaker's father is introduced as the major character of the story. In (11b) and (11c), the father is referred to as a GIVEN referent, specifically as a possessor and as an object. Both possessor and object are unmarked third-person singular. In (11d) and (11e), we have a "RESULT CAUSE-*ika*" sequence with the subject of the RESULT clause, 'my father', being coreferential with the preceding GIVEN object and possessor referents of (11b) and (11c). The subject of the CAUSE clause, 'the war', has appeared previously in the discourse, in the first sentence of the text (11a), but because the referent for the subject of the RESULT clause has been mentioned more recently than the referent for the subject of the CAUSE clause, the RESULT clause is more topical according to my operational definition of topicality, even though the subject referent of the RESULT clause appears in non-subject relations in (11b) and (11c).

If the subjects of the RESULT and the CAUSE are coreferential, any objects will determine the topicality of the clauses, as in the "RESULT CAUSE-*ika*" sequence in (12f) and (12g):

(12) a. nokosicolit man haci oociipisiko
old:bear that tail didn't:have
'The old bear didn't have a tail.

b. ponkin owakitâatoos . . . maakâat . . .
our:hands should:be . . . he:said . . .
"It should be our hands", . . . he said . . .

c. nokositaat inki kawaapin
bear hand raised
The bear raised his hand.

d. ponatta ita afikhonnaakaat kawapaakin
animals other that:were:there raised
The other animals that were there raised them [hands].

e. hankit wootko hocifki laykatiitot
one raccoon named was:there
One called "Wootko" [Raccoon] was there.

R f. kawapita yăaa^{n}cisikot
to:raise he:didn't:want
He didn't want to raise it [his hand]

C g. haci hĭii^{n}rosi nowipika
tail beautiful because:he:had
because he had a beautiful tail.'

The excerpt in (12) occurs in a story that is partially about electing someone to catch a berry thief, but the animals must

person singular (suffixal *-ay*) and the subject of the following RESULT clause is second-person plural (suffixal *-ácik*). The referents for the second-person subject in the RESULT clause are probably meant to be non-Creeks in general since the narrator told the story to me, a non-Creek, and since I told him beforehand that his story would be shared with other academics. In any case, the subject of the RESULT clause is less topical than the subject of the preposed CAUSE clause, which is included in the referential subjects of the two clauses in (13a). Note that the narrator returns to the more topical first-person referent in (13d).

The second special referential pattern that I have noticed in my causal data is the use of inferrable participants (Prince 1981) as topical participants determining the order of the sequences. Two examples occur in (14):

(14) a. ma inhopoytaaki hăa^{n}nkit nâak imhôoyatii
that his:children one thing he:was:given
'One of his children was given several talents

b. pokkiccitaat akloopkat istŏoo^{n}mioomakaat pankaat . . .
ball:playing swimming anything dancing . . .
ball playing, swimming, anything, dancing . . .

c. New York Giants maakitaat cooka saatipeyhôocin . . .
New York Giants called paper they:signed:him . . .
He was signed with the New York Giants . . .

d. horrit alâakin
war came
A war came.

C e. solitaaw itan apaakika
soldier other because:be:with
Because he was a soldier in the army,

R f. man ayiipatii
then he:left
he left.

g. mat imokita spookipatiituwiis
that time it:was:the:end
That was the time that he died.

h. tapaalarakkon ralaakíkomônkit
overseas he:didn't:come
He didn't come back from overseas.

R i. mat imkatont oocitoomiipatiis maisti hamkaat
that gift he:had that:fellow one
That was one fellow that had all those gifts

C j. Mila ankii aossitomiipika
Miller past because:he:came:out:of
because he came out of Miller.'

Example (14), from a life story of the narrator's father (Miller), concerns specifically the talents and death of one of the narrator's brothers. In (14e), the CAUSE clause precedes the RESULT clause in (14f). The subjects of both the CAUSE and the RESULT clauses are the same, coreferential with the objects of the impersonal-passive clauses in (14a) and (14c), as well as the subjects of elided clauses that occur between (14c) and (14d). Because the subjects of both the CAUSE and RESULT clauses are coreferential, third-person singular, we look to topical objects to justify the preposing of the CAUSE clause. The translation of (14e), the CAUSE clause, is 'because he was a soldier in the army', even though there is no overt mention of the oblique object 'army'. I conclude that the Creek object 'soldiers' is inferrable in the context of the immediately preceding clause in (14d), 'A war came', and that the topical object, 'with the other soldiers', therefore causes the preposing of the CAUSE clause even though absolute reference in (14d) gives no justification for ordering either the CAUSE or the RESULT.

The second example of an inferrable participant determining topicality in (14) occurs in (14i)-(14j), a sequence of "RESULT CAUSE-*ika*". The subjects of the RESULT and the CAUSE clauses are coreferential, the postposed *maisti hamkaat* 'the one fellow' and the GIVEN 'he' (the narrator's brother). This referent is highly topical since he is the subject or object of every clause in (14) except that in (14d). Since the subjects of the causal clauses are equally topical, they cannot determine the order of CAUSE and RESULT clauses. If we look to the objects of these clauses, we see that *Mila* 'Miller' occurs as a GIVEN possessor in (14a) *inhopoytaaki* 'his children', morphologically signalled by the possessive prefix *in-*. Even though *imkatont* 'gift' is not mentioned as a participant, it is inferrable on the basis of several related participants and events in (14). First, in (14a), it is asserted that one of Miller's children was given several 'talents', 'talents' being part of the English translation provided for the Creek clause *nâak imhôoyatii*, literally 'somebody gave him something'. The verb *imhôoyatii* is an inflected form of *im* 'give', the same verb root used in deriving the nominal form *imka* 'gift'. The verb *im* 'give' provides the initial semantic frame for the inferrable topic *imka* 'gift'. Furthermore, in (14b) and (14c), several of these gifts are listed: ball playing, swimming, 'anything', dancing, even a contract with the New York Giants. Thus, by the time of the causal sequence in (14i) and (14j), 'gift' is more topical than *Mila* (since 'gift' occurred more recently, even though as an inferrable topic) and occasions the preposing of the RESULT clause.

The definition of degree of topicality as last mentioned subject (and object) referent, whether in the immediately

preceding clause or earlier and whether previously in subject position or not, correctly accounts for the ordering of 31 (74%) of 42 Creek causal sequences. However, it leaves the ordering of 11 sequences unaccounted for, either because the CAUSE and RESULT clauses are equally topical or non-topical (6), or because the ordering is unexpected given our definition of topicality (5) (Tables 4 and 5). There is a wide variety of possible reasons for ordering when the causal clauses are equal in topicality or the clausal order is unexpected. But just as a more finely tuned operational definition of topic as last mention of subject (and object) referent accounts for the order of more Creek causal sequences than defining topic as clausal subject, I expect that an even more finely tuned operational definition of topic might account for a significant percentage of these 11 sequences which are at present not accounted for. Further refinement awaits the collection and analysis of more data.

5. Causal Sequence Ordering in Creek and English. I am involved in an ongoing investigation of English causal sequences whose early stages currently suggest that the expanded definition of topicality used in this paper to account for Creek causal ordering might be successful for both written and spoken English genres (Hardy and Leuchtmann, in preparation). Since Schiffrin's data come solely from oral English conversation and since my data in this paper come solely from oral Creek narrative, crucial variables accounting for complexity in this more ambitious study of English could turn out to be genre, oral vs. literate channels, and/or different definitions of topicality in English vs. Creek.

What is interesting, however, and more conclusive at this point is that 74% of the orderings of the Creek causal sequences in my data can be accounted for with a definition of topic continuity that is essentially a modification of Schiffrin's (1985) definition. This is remarkable given the syntactic and morphological differences between English and Creek causal sequences. English conversation uses syntactically independent clauses to encode a "CAUSE RESULT" sequence with the RESULT marked by *so* and uses a dependent clause to encode the CAUSE clause in a "RESULT CAUSE" sequence. Creek uses a dependent clause suffixed with *-ika* to mark the CAUSE whether it precedes or follows the RESULT. The similarity between the determinants of causal ordering in Creek and English, even given the more diffuse definition of topic used in this study, suggests a similarity of discourse determinants of causal ordering quite independent of more local syntactic differences such as the use of independent vs. dependent clauses.

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