CREEK VOICE: BEYOND VALENCY

Jack B. Martin

Within chemistry, VALENCY refers to the capacity of an atom or group of atoms to combine in specific proportions with other atoms or groups of atoms.[1] The French linguist Lucien Tesnière is generally credited with introducing this term to linguistics, where it is used metaphorically for the capacity of a verb to combine with distinct arguments or valents (Crystal 1985). A verb like *rain*, which has no referential noun phrases associated with it, is said to be ZERO-PLACE or AVALENT; a verb like *disappear*, which takes only a subject argument, is said to be ONE-PLACE or MONOVALENT; verbs like *devour* and *give* are said to be TWO-PLACE (BIVALENT) and THREE-PLACE (TRIVALENT), respectively.

This chemical metaphor has had a pervasive influence in linguistics: causative and applicative morphemes are now described as 'adding arguments,' while passives and middles are described as 'suppressing' or 'deleting' arguments, respectively. Entire sections of grammars are devoted to 'valency-changing,' 'valency-increasing,' or 'valency-reducing' processes, suggesting that the primary function of these grammatical processes is to regulate the number of arguments in clauses.

The chemical metaphor contrasts with an older tradition that distinguishes just two classes of predicates—TRANSITIVE and INTRANSITIVE—and a category of VOICE. Passive voice and middle voice are seen within this tradition as altering the 'point of view' or 'centre of interest' (Jesperson 1924:167) within a clause rather than applying mathematical operations to it, and causatives and applicatives are sometimes included and sometimes excluded from the traditional range of voice-related phenomena.

There are important issues here that need to be researched and clarified. One point distinguishing the theories of voice and valency, for example, is the issue of the degree to which grammars have the ability to COUNT. As an analogy, one commonly reads descriptions of stress systems in which accent is said to be placed on the third or fourth syllable from an edge, but these have generally been replaced by more restrictive theories in which rhythm operates in prosodic units of different sizes. In discovering this, we learn an important fact about language, that while counting may be a basic human cognitive process, it plays virtually no role in grammar.

To an extent, then, voice and valency are competing theories of clause structure:

(a) The theory of valency claims that there are at least four distinct grammatical classes of predicates (zero-, one-, two-, and three-place). The capacity of a predicate to occur with different numbers of noun phrases can itself be taken as a grammatical

---

[1]The title of this paper extends a chain begun by Barber (1975) and continued by Croft (1994). The phonemic transcription used here for Creek is based on Mary R. Haas's work. The phonemes are /p t c k f s ł h m n w l y i i· a a· o o·/. /c/ is a voiceless palatal affricate; /ł/ is a voiceless lateral fricative. As a diphthong, /ay/ is pronounced and written /ey/; V· is a long vowel. Primary stress (realized as the last high pitch syllable in a word) is written with an acute accent; ˆ and ` indicate falling tone and rising tone, respectively; ^{n} indicates nasalization; ´ indicates a stressed word-initial syllable (usually resulting from aphaeresis).

I am grateful to Margaret McKane Mauldin and George Bunny for help with the Creek data cited in this paper, to Bob Dixon and Sasha Aikhenvald for organizing the workshop at which these ideas were developed, and to Ann Reed and two anonymous reviewers for comments. All mistakes are mine.

diagnostic of class membership, of course, but it is not clear whether these classes have any independent motivation in grammars. Given the four-way classification, we might expect that only one-place verbs would be allowed as complements of causatives in a particular language, for example, or that a certain allomorph of the past tense would be limited to three-place verbs.[2] In contrast, the traditional theory predicts that these phenomena might be sensitive to transitivity.

(b) By stating that a process is 'valency-reducing,' linguists are further claiming that there is something in common among the various processes that create intransitives from transitives. A two-place verb in a clause like *John is cooking the rice* can in some languages be converted to what Dixon and Aikhenvald (*Introduction*) call an S=O intransitive *The rice is cooking* or an S=A intransitive *John is cooking*. If valency reduction is a valid linguistic concept, we might expect that the same affix could be used in some language to derive both of these one-place clauses. An account appealing to voice, however, predicts that different grammatical devices will be used for these two detransitivizing processes, since the S=A intransitive has the agent as the centre of interest, while the S=O intransitive altogether avoids reference to an external cause.

(c) Similarly, the theory of valency leads us to assume that causatives and applicatives are essentially similar in functioning to increase the number of arguments in a clause. Hence, we might expect that the same affix would commonly signal both of these functions.[3] If causatives and applicatives are treated within a theory of voice, however, we would expect that they would normally be signalled by different grammatical processes, since causation manipulates the starting point of an event, while applicatives manipulate the endpoint.

This paper has two interrelated goals: a) to provide a description of phenomena within the traditional categories of voice and valency in Creek; and, b) to argue that the concept of voice better describes the Creek system than the concepts of valency increase or valency reduction. Creek is ideally suited for such a study because it has a number of morphological operations that can be thought of as changing voice or valency:

(1) a.	*ta·c-ís*	's/he is cutting it'	Active
b.	*tác<u>k</u>-i-s*	'it is cut'	Middle *-k-*
c.	*tách<u>o</u>·y-ís*	'they/people are cutting it'	Impersonal plural *-ho-*
d.	*<u>ín</u>-ta·c-ís*	's/he is cutting it for him/her'	Dative applicative *im-*
e.	*<u>ís</u>-ta·c-ís*	's/he is cutting it with it'	Instrumental applicative *is-*
f.	*tac-<u>ípeyc</u>-ís*	's/he is making him/her cut it'	Indirect causative *-ipeyc-*

The processes deriving (1b-c) from (1a) could be called 'valency-reducing': while two full noun phrases are possible in (1a), only a subject is possible in (1b) and only an object is possible in (1d). Similarly, the processes in (1d-f) could be called 'valency-increasing' because the addition of these affixes allows the basic verb to sanction an additional

---

[2]An example that comes close to this is Dixon's (chapter 2) claim that Sonrai, Basque, and Abkhaz allow causativization of intransitive and simple transitive verbs, but not of ditransitives.

[3]Indeed, Comrie (1989:183) makes the claim that the suffix *-al* in Wolof is "a general indicator of increase in valency," serving both to indicate a causative ('I will <u>make</u> the child sit') and to add an indirect object ('He is reading his book <u>to</u> the pupils'). A similar claim is made for Tolkapaya by Munro (1996).

argument. I will argue instead that a speaker does not use the processes in (1b-f) to change the capacity of a verb to combine with noun phrases, however, but to shift the centre of interest in a clause. On this view, the middle in (1b) leads to a shift in attention from the cause to the effect; the impersonal plural in (1c) shifts attention away from the cause; the applicatives in (1d) and (1e) shift attention from an effect to a secondary effect and manner, respectively; and the indirect causative in (1f) shifts attention to a primary cause. An approach of this kind, which supports and extends Croft's (1994) conception of voice, leads to the conclusion that changes in valency are side-effects of changes in point of view. We include or omit noun phrases in clauses according to our ability to incorporate them into a particular event view: valency is the codification of that ability.

In **1** I provide an overview of Creek grammar and transitivity. Sections **2-7** describe the voice-related affixes in (1). **8** examines the interaction of these markers.

1. Background.

Creek, along with Chickasaw, Choctaw, Alabama, Koasati, Apalachee, and Hitchiti-Mikasuki, is a member of the Muskogean family of languages of the southeastern United States. Creek literacy developed in the middle of the nineteenth century. The description in this paper has been aided by the existence of a large number of letters, laws, and stories written by Creek speakers and by extensive field work by Mary R. Haas and others (see, e.g., Haas 1940, Nathan 1977, Booker 1984, Hardy 1988, 1994).

The neutral word order in Creek is subject - object - verb. Subjects and objects are commonly omitted when they are clear from context. Creek has a nominative/nonnominative ('oblique') system of case marking in which *-t* occurs at the end of a subject noun phrase and *-n* occurs at the ends of nonsubject noun phrases within a clause:

(2) a. *ifá-t* *wo·hk-ís*
dog-NOM bark:LGR-INDIC
'a dog is barking'

b. *ifá* *lást-i·-t* *fítta-n* *hôył-is*
dog black-DUR-NOM outside-OBL stand:FGR-INDIC
'a black dog is standing outside'

c. *ifá-t* *pó·si* *lást-i·-n* *á·ssi·c-ís*
dog-NOM cat black-DUR-OBL chase:LGR-INDIC
'a dog is chasing a black cat'

In colloquial speech, nominative *-t* and oblique *-n* are sometimes omitted.

Related suffixes *-it* and *-in* indicate same-subject and different-subject switch-reference marking of subordinate clauses:

(3) a. *ifá-t* *wo·hk-ít* *pó·si-n* *á·ssi·c-ís*
dog-NOM bark:LGR-SS cat-OBL chase:LGR-INDIC
'the dog is barking and chasing the cat'

b. *ifá-t* *wo·hk-ín* *pó·si-t* *á·ssi·c-ís*
dog-NOM bark:LGR-DS cat-NOM chase:LGR-INDIC
'the dog is barking and the cat is chasing him'

In (3a), *-it* indicates that the subject of the first clause extends to the second clause; in (3b), the use of *-in* signals a break that is often interpreted as a shift from one subject to another.

Creek verb stems occur in one of several GRADES characterized by suprasegmental changes that usually signal a change in aspect. Grades in Creek include the zero-grade (e.g., *wanáy-as*'tie it!'), the level-pitch grade (*wana.y-ís* 's/he is tying it'), the h-grade (*wanáhy-is* 's/he tied it (just now)') and the falling-tone grade (*wanâ.y-is* 's/he has tied it').

Creek has two series of person markers corresponding most closely to a distinction in agency (Martin 1991b). Because there are irregularities in the system, I follow Munro and Gordon (1982) in labelling the two series types I and II:

(4)

Type I (Agentive)	**Type II (Nonagentive)**
na·fk-éy-s 'I am hitting it/him/her'	*ca-na·fk-ís* 's/he is hitting me'
hî·c-ey-s 'I see it/him/her'	*ca-hî·c-is* 's/he sees me'
li·tk-éy-s 'I am running'	*ca-híc-i·-s* 'I can see'
lêyk-ey-s 'I am sitting'	*ca-láw-i·-s* 'I am hungry'
latêyk-ey-s 'I fell (on purpose)'	*ca-latêyk-is* 'I fell (accidentally)'
kô·m-ey-s 'I think' / 'I want it'	*ca-yá·c-i·-s* 'I need it'

As the first column in (4) reveals, type I person marking is typically used for most transitive subjects and for agentive (volitional) intransitive subjects. Type II person marking is used for most transitive objects and for nonagentive intransitive subjects. A few transitive nonagentive verbs (e.g., *ca-yá·c-i·-s* 'I need it') use type II person marking for their subjects.

While I have resorted to the terms 'transitive' and 'intransitive' in the previous paragraph, Creek lacks obvious diagnostics for these categories. In English, a transitive verb is generally defined as a verb that can take a direct object (e.g., *John sees the town*), while an intransitive verb is one that cannot (**John is going the town*). This distinction is not so clear-cut in Creek. Consider the following:

(5) *cá·ni 'taló·fa-n hî·c-is*
John town-OBL see:FGR-INDIC
'John sees the town'

(6) *cá·ni 'taló·fa-n ay-áha·n-ís*
John town-OBL go:sg-FUT:LGR-INDIC
'John is going to town'

Since both of these verbs occur with objects in Creek, there is little motivation for placing them in different classes.

There is an important distinction in Creek between a verb like *ay-* 'go (of one)' and *litk-* 'run (of one)', however: as (6) shows, when *ay-* occurs with an object, the object can be interpreted as a destination. The verb *litk-* does not allow this:

(7) **cá·ni* *'taló·fa-n* *lítk-aha·n-ís*
John town-OBL run:sg-FUT:LGR-INDIC
'John is running to town'

The sentence in (7) could only mean that the activity will take place *in* town, as in a race. This locative reading is available to almost any predicate, however:

(8) *tálsi-n* *o·sk-acók-s*
Tulsa-OBL rain:LGR-EVID-INDIC
'it is raining in Tulsa'

To express destination with the verb *litk-*, the object must be mediated through an applicative prefix (9a) or a postposition-like element (9b):

(9) a. *cá·ni* *'taló·fa-n* *a-lítk-aha·n-ís / oh-lítk-aha·n-ís*
John town-OBL at-run:sg-FUT:LGR-INDIC / on-run:sg-FUT:LGR-INDIC
'John is running to town'

b. *cá·ni* *'talo·f-fácca-n* *lítk-aha·n-ís*
John town-toward-OBL run:sg-FUT:LGR-INDIC
'John is running toward town'

The distinction between the verbs *ay-* 'go (of one)' and *litk-* 'run (of one)' in this respect is similar to the distinction between transitive and intransitive verbs in English. One might therefore suggest that transitive verbs in Creek assign specific thematic interpretations to their noun phrase objects, while intransitive verbs do not:

(10) **Verbs not assigning interpretations to their objects**
osk- 'rain', *litk-* 'run'

Verbs assigning interpretations to their objects
ay- 'go', *hic-* 'see', *a-litk-* 'run to', *oh-litk-* 'run to'

This semantic distinction appears not to have entered the grammar of Creek, however.

One might distinguish predicates based on the number of arguments they allow or imply:

(11) **Zero-place predicates**
osk- 'rain', *atokyiha·tt-* 'flash lightening', *hayatk-* 'get to be day, dawn'

One-place predicates
litk- 'run', *atotk-* 'work'

Two-place predicates
ay- 'go', *hic-* 'see', *a-litk-* 'run to', *oh-litk-* 'run to', *homp-* 'eat', *nafk-* 'hit'

Three-place predicates
im- 'give', *acca·y-* 'lean (one) against', *hompeyc-* 'feed'

Such a classification is based on the meanings assigned to noun phrases, however, and the classification is not independently motivated in the grammar.

From this discussion, it appears that Creek is a language that lacks clear diagnostics for transitive and intransitive verbs (and hence for the labels 'S', 'O', and 'A' used in some of the papers in this volume). There are, however, a number of voice-related derivational processes in the language whose side-effect is an increase or reduction in valency. These are treated in the following sections.

2. Middle *-k-*.

Creek has a suffix *-k-* appearing on many one-place verbs and often deriving one-place verbs from two-place verbs, as in (12):

(12) a. *hopóywa-t* *ifá-n* *i·h-ís*
child-NOM dog-OBL hide:LGR-INDIC
'the child is hiding the dog'

b. *ifá-t* *i·hk-ís*
dog-NOM hide:MID:LGR-INDIC
'the dog is hiding'

Hardy (1988, 1994) labels Creek *-k-* in examples like (12b) the 'middle' voice. Following work by Kemmer (1993), he suggests that *-k-* records "affected subjects of events of very low elaboration." I will adopt the term 'middle' here, though I will claim that affectedness and valency-reduction in middle voice forms are consequences of a more fundamental shift in event view from cause to effect.

(a) Historically, Creek *-k-* derives from an auxiliary (Haas 1977). In its origin and structure, then, it shares more with the English *get*-passive (as in *He got fired*) than with the reflexive middles found in French, Spanish, Italian, Icelandic, and Russian.

(b) A large number of middle verbs in Creek are deponents: the presence of *-k-* can only be determined in these forms through internal reconstruction (by applying morphological diagnostics).[4]

[4]The tests used in this paper are absence of *-k-* in direct causative or plural forms of verbs or alternation of *-k-* with *-y-*. When internal reconstruction has been used to establish the presence of the middle, 'cf.' is placed before the related form.

(c) Adding *-k-* to a stem usually has the effect of reducing the number of arguments in the clause, so that an *n*-place predicate becomes an *n*-1-place predicate. Usually, the middle derives a one-place predicate from a two-place predicate, as in (12), though it may also occasionally derive a two-place predicate from a three-place predicate:

(13) *acca·k-itá* 'to lean against' cf. *acca·y-itá* 'to lean (one) against'

In one instance, a zero-place predicate occurs in the middle, however:

(14) *hayatk-itá* 'to dawn' cf. *hayatí·c-a* 'morning star', lit. 'one that makes it dawn'

The middle is also occasionally added to one-place predicates without reducing valency:

(15) *hopołłink-itá* 'to gain wisdom' cf. *hopołłin-í·* 'sensible, wise'
tikínk-i· 'on tip-toe' cf. *tikinn-itá* 'to tip-toe'

While valency-reduction is thus a common side-effect of the Creek middle, it is not a necessary consequence of the middle.

(d) The use of a reflexive or reciprocal does not lead to use of the middle in Creek:

(16) *i.-hic-áhk-is*
REFL-see-pl:HGR-INDIC
'they saw themselves (just now)'

(17) *iti-hic-áhk-is*
RECIP-see-pl:HGR-INDIC
'they saw each other (just now)'

A decrease in elaboration (the number of referentially distinct arguments) therefore does not trigger use of *-k-* in Creek.

(e) As the case marking in (12a-b) shows, the argument interpreted as changed or affected is case marked as a nonsubject in the active voice form, but as a subject in the corresponding middle voice form. Similarly, selectional restrictions holding of the theme or patient shift from the nonsubject to the subject. Many motion verbs and positional verbs, for example, supplete in Creek for the number of the theme or patient. This means that in active forms, they supplete for a nonsubject, while in middle forms they supplete for the subject:

(18) *pasatk-itá* 'to die (of two or more)' cf. *pasat-itá* 'to kill (two or more)'

(f) There is no implicit argument in the middle, as there is in the English passive or in Creek impersonals. (12b) is thus better translated as 'the dog is hiding' than as 'the dog is being hid'.

(g) As (12b) shows, the subject of the middle may be agentive or nonagentive. The function of Creek *-k-* is thus not to avoid ascribing agency; instead, the event is 'self-

contained' and any patient or theme argument, whether or not it is also agentive, becomes the 'centre of interest'.

(h) Creek middles may in principle occur in one of several aspects. These include the imperfective (or 'level-pitch grade', used for progressives), the durative perfective (used for states), and the durative imperfective (used for habits or generic statements), among others:

(19) a. *ahópank-ís* (IMPERFECTIVE)
break:MID:LGR-INDIC
'it is breaking'

b. *ahopánk-i·-s* (DURATIVE PERFECTIVE)
break:MID-DUR-INDIC
'it is broken'

c. *ahópank-í·-s* (DURATIVE IMPERFECTIVE)
break:MID:LGR-DUR-INDIC
'it breaks (routinely)'

Many nonagentive middle verbs show a marked preference for the durative perfective aspect, however. In this aspect, middles indicate a state resulting from the activity described by the verb. This use is commonly observed with verbs describing procedures:

(20) **Use of the middle with procedural verbs:**

ahółk-i· 'sewn'	*ahoł-itá* 'to sew'
akhótk-i· 'closed, shut'	*akhott-itá* 'to close, shut'
háwk-i· 'open'	cf. *hawic-itá* 'to open'
hóck-i· 'pounded'	*hoc-íta* 'to pound'
hotánk-i· 'braided'	*hotan-itá* 'to braid, plait'
káck-i· 'snapped, broken'	*kac-íta* 'to snap (one)'
láfk-i· 'cut open, gashed'	*laff-itá* 'to cut open'
límk-i· 'plucked'	*li·m-itá* 'to pluck'
łató·sk-i· 'unfolded (of a quilt, etc.)'	cf. *łato·sic-íta* 'to unfold'
łicápk-i· 'loose, untied'	*łicap-itá* 'to untie, release'
mótk-i· 'cropped, bobbed'	*mot-íta* 'to crop, bob'
pikíck-i· 'pleated'	*pikic-itá* 'to pleat'
táck-i. 'cut'	*tac-íta* 'to cut'
táłk-i· 'woven, knitted'	*tał-íta* 'to weave'
wocótk-i· 'chopped (as of wood)'	*wocot-itá* 'to chop'
wokóck-i. 'smashed, shattered'	*wokoc-itá* 'to crush, smash, shatter'

The use of the middle is thus tied in part to aspect, with verbs in this class favoring a context in which states result from a procedure of some kind.

(i) There is no simple way in Creek to predict whether a verb will be active or middle based on the meaning of the verb. Thus, predicates differing only in number may differ in whether they are middles or not:

(21) *il-íta* ‘to die (of one)’ *pasatk-itá* ‘to die (of two or more)’

Antonyms may also differ:

(22) *hitót-i·* ‘frozen’ *sití·fk-i·* ‘thawed’

(j) There are a few semantic generalizations emerging from the data, however. First, verbs describing simple movement without implying a specific manner or special effort tend NOT to be middles:

(23) **Lack of the middle with basic motion verbs:**
at-íta ‘to come (of one)’
ay-íta ‘to go (of one)’
ał-íta ‘to go about (of one)’
hoyan-itá ‘to go by (of one)’
(i)ci·y-itá ‘to go in (of one)’
oss-itá ‘to go out (of one)’

Verbs describing manner of motion or more energetic motion DO tend to be middles:[5]

(24) **Use of the middle with manner of motion verbs:**

acimk-itá ‘to climb (of one)’	cf. *acimic-íta* ‘to climb (of three or more)’
halk-itá ‘to crawl (of one)’	*halic-itá* ‘to crawl (of three or more)’
kawapk-itá ‘to rise, go up (of one)’	*kawap-itá* ‘to lift, raise’
litk-itá ‘to run (of one)’	cf. *liticeyc-itá* ‘to run off, make (one) run’
sofo·tk-itá ‘to drag oneself’	cf. *sofo·tic-íta* ‘to drag’
solo·tk-itá ‘to slide, slip (of one)’	cf. *solo·ticeyc-itá* ‘to make (one) slide’
tamk-itá ‘to fly (of one)’	cf. *tamiceyc-itá* ‘to flush (one bird)’
ta·sk-itá ‘to jump (of one)’	cf. *ta·sic-íta* ‘to jump (of three or more)’

Verbs describing movement into a specific posture or the adoption of a position also tend to be middles:[6]

(25) **Use of the middle with posture verbs or positionals:**

a·-coko·k-itá ‘to get on piggyback’	*a·-coko·y-itá* ‘to carry piggyback’
apeyk-itá ‘to get or be inside (of one)’	cf. *apeyc-itá* ‘to have added on’
apo·k-itá ‘to sit (of three or more)’	*apo·y-itá* ‘to set (three or more)’
ka·k-itá ‘to sit (of two)’	*ka·y-itá* ‘to set (two)’
leyk-itá ‘to sit (of one)’	cf. *leyc-itá* ‘to set (one)’
siho·k-itá ‘to stand (of two)’	*siho·y-itá* ‘to stand (two)’
wakk-itá ‘to lie (of one)’	cf. *wakic-itá* ‘to lay (one) down’

[5]One exception is *yakap-itá* ‘to walk’.

[6]Verbs in this class may refer to the act of assuming a position or to the state resulting from that act depending on the aspect the verb is placed in.

There are several differences between the middles in (24) and (25) and those in (21): the middles derived from procedural verbs (21) usually have nonagentive subjects, generally refer to states resulting from activities, are derived morphologically through affixation of *-k-* to the active voice form, and are formed fairly freely. In contrast, the manner of motion verbs and positional verbs usually have agentive subjects, usually refer to events, are generally not derived by simple affixation, and are not formed productively.

(k) Middle *-k-* is fairly common: A recent dictionary (Martin and Mauldin ms.) contains approximately 144 verbs that can be shown to include *-k-*. There are restrictions on the shape of the root to which it attaches, however. Thus, active verbs cannot form middles if adding *-k-* would produce an illicit consonant cluster. A verb like *afast-itá* 'to take care of' thus has no corresponding middle **afastk-* 'taken care of', and posture verbs that end in consonant clusters (e.g., *hoył-itá* 'to stand (of one)') cannot occur in the middle even though other verbs in this semantic class are middle verbs.[7]

Based on (a-k) above, it seems unlikely that a description of Creek *-k-* in terms of valency reduction, affectedness, or elaboration will be successful. Describing *-k-* as valency-reducing fails to explain why *-k-* does not create S=A intransitives (e.g., *John cooks*). Describing *-k-* in terms of subject-affectedness would fail to explain its use with manner of motion verbs (rather than 'basic' motion verbs) and zero-place verbs like 'to dawn'. Describing it in terms of low elaboration fails to explain why it is not required with reflexives and reciprocals.

It seems more promising to describe Creek *-k-* as framing the clause from the endpoint.[8] A shift in point of view would then effect changes in valency, transitivity, aspect, and affectedness, though none of these is obligatory when *-k-* is present. These tendencies are shown in (26) below:

(26) **Effects of the Creek middle**

	Base form		**Derived form**
EXT. ORIENTATION	cause (actor)	—>	effect (undergoer)
INT. ORIENTATION	(no change)		
CAUSE AVOIDANCE	explicit external cause	—>	self-contained event (no external cause)
ASPECT	activity	—>	resulting state or inchoative
SUBJ. AFFECTEDNESS	usu. not affected	—>	often affected
VALENCY	*n*-place predicate	—>	*n*-1-place predicate
TRANSITIVITY	transitive	—>	intransitive
	ditransitive	—>	transitive

In this chart and in charts to follow, I distinguish between EXTERNAL orientation (roughly, the orientation of the subject or starting point at the clause-level) and INTERNAL

[7]In some instances, the weight of a root may be adjusted, however, to permit the formation of a middle.

[8]The characterization of the Creek middle as signalling endpoint differs from Croft's (1994) characterization of middles crosslinguistically as inchoatives. While Creek middles can have inchoative readings, they more commonly refer to resulting states.

orientation (the orientation of the object or endpoint at the predicate-level). In this sense, external orientation is close to what Klaiman (1988) refers to as 'diathesis' or to the traditional restriction of voice to the point of view of the subject in a clause. In the base or active form, the external orientation is toward a cause (actor), while in the derived form, the external orientation is toward the effect (undergoer). In the base form, there is typically an explicit external cause, while the derived form avoids mention of this entity. The base form is typically an activity, while the derived middle is usually a resulting state or inchoative. The subject of the derived middle is usually affected, and both valency and transitivity are reduced.

What the chart in (26) and subsequent charts attempt to describe is the fact that a single morphological process can have several historically or functionally related grammatical effects. It is far from obvious that change in valency has any special status. If the approach to the Creek middle outlined here can be generalized to other derivational processes, then 'valency' and 'valency reduction'—to the extent that these terms are even significant linguistically—may be consequences of larger decisions speakers make about the organization of event view.

3. Impersonal plural *-ho-*.

Creek has an affix *-ho-* used when the specific identity of a subject is felt to be unimportant. The affix also has plural uses in clauses allowing overt subjects, but in the impersonal use leads to subjectless clauses in which a patient receives greater attention. The Creek impersonal plural can therefore be seen as a voice marker (because it increases the prominence of a patient) as well as a valency-reducing marker (because overt noun phrase subjects are disallowed).

(a) One common use of *-ho-* is to make statements that refer to people in general:

(27) *hì·^{n}c-itá* *tó.ko-·-t* *ô·^{n}w-i·-s*
see:NGR-INF be:not-DUR-SS be:FGR-DUR-INDIC

má·ho.k-at-í·-t *ôn-ka*
say:IMPERS.PL:LGR-PST-DUR-SS be:FGR-so
'"You're not supposed to stare at it," they/people used to say, so...' (1992a)

(28) *heyyô·^{n}wa·t=ta·t* *i·kaná* *kíłł-is-ikó-·* *fá·ka*
now=TOP land know-exist-not-DUR hunting

apiy-ípho·y-â·t
go:tripl-CMPL-IMPERS.PL:LGR-TOP
'But now, they/people go hunting on unfamiliar lands...' (1992b)

This use is nonanaphoric in the sense that it does not refer back to any character in the narrative.

(b) Impersonal plural *-ho-* may also refer back to characters who have already been established in a narrative, however, if the speaker is not concerned with the identity of the individual:

(29) *hompeyc-ak-í·-s* *máhk-it* *ifá=ta·t* *hompeyhóhc-in*
feed-pl-DUR-INDIC say:HGR-SS dog-TOP feed:IMPERS.PL:HGR-DS
'Saying "Let's feed him," they (two minor characters in the story) fed the dog...' (1992c)

The use of *-ho-* is not just for generic subjects, then, but for subjects that the speaker chooses to background.

(c) Impersonal plural *-ho-* is always grammatically plural. If a verb has distinct forms for singular, dual, and triplural (three or more), the triplural form is used, though the sense may be singular (30) or triplural (31):

(30) *cofí-n* *akál-ała·n-ít* *s-ohh-apí·ho·y-â·n*
rabbit-OBL pour-FUT:LGR-SS INST-on-go:tripl:IMPERS.PL:LGR-TOP
'when he/they (a minor character) went up to pour it on Rabbit...' (1939)

(31) *pa·n-ít* *fólho·y-at-í·-s*
dance:LGR-SS go.about:tripl:LGR-PST-DUR-INDIC
'…they/people were dancing about.' (1939)

(d) Because impersonal plural *-ho-* functions to deemphasize a subject, it is the preferred way to translate the English passive:

(32) *mô·meys* *ísti* *sosséyho·c-ô·f…*
but people cast.out:tripl:IMPERS.PL:LGR-when
'But when the people were put forth…' (Matthew 9:25)

(e) The Creek impersonal plural differs from a passive, however, in that objects continue to be coded as objects, with oblique *-n*:

(33) *oymó·łki-n* *yahá-n* *akálho·y-ín*
boiling.water-OBL wolf-OBL pour.on:IMPERS.PL:LGR-DS
'...they pour boiling water on Wolf...' (1939)

(f) An impersonal clause cannot normally occur with an overt subject:

(34) a. *sókca-n* *óywa-n* *acánho·y-ís*
bag-OBL water-OBL pour.in:IMPERS.PL:LGR-INDIC
'they/people are pouring water into bags'
b. **ísti* *sókca-n* *óywa-n* *acánho·y-ís*
person bag-OBL water-OBL pour.in:IMPERS.PL:LGR-INDIC
'people are pouring water into bags'

With an overt subject, a true plural form must be used:

(35) *ísti sókca-n* *óywa-n* *acán-a·k-ís*
person bag-OBL water-OBL pour.in-pl:LGR-INDIC
'people are pouring water into bags'

(g) Not all verbs are compatible with impersonal *-ho-*. The semantic class of verbs that occurs with the impersonal has not been researched extensively, though agentive predicates appear to be favored.

While it seems clear that the creation of subjectless clauses in Creek is a change in valency, it is also clear that a description of the impersonal plural as 'valency-reducing' would capture only a small part of its grammar. The Creek impersonal plural functions to background the role of the subject in a clause, so that the role of a cause (actor) is acknowledged by the speaker without being activated in the hearer's mind. The point of view can therefore be described as being away from the cause, though any patient or theme will consequently receive greater attention. These side-effects are charted in (36):

(36) **Effects of the Creek impersonal plural**

	Base form		**Derived form**
EXT. ORIENTATION	cause	—>	away from cause
INT. ORIENTATION	patient	—>	greater topicality
CAUSE AVOIDANCE	explicit external cause	—>	implicit external cause
ASPECT	(no change)		
SUBJ. AFFECTEDNESS	(no change)		
VALENCY	*n*-place predicate	—>	*n*-1-place predicate
TRANSITIVITY	(no change)		

4. Dative applicative *im-*.

Creek has a prefix *im-* (or *in-* before nonlabial consonants) whose function appears to be that of adding an 'indirect object' to the verb it attaches to (generally a benefactive or malefactive, but also, depending on the verb, a goal, source, or possessor). Observing similarities to a construction in Bantu, Baker (1988:472-3) proposed referring to the Chickasaw and Choctaw cognate as an 'applicative', a term that has since been adopted by some Muskogeanists.

For Baker, applicatives are incorporated adpositions. Like prepositions or postpositions, then, applicatives add noun phrases to clauses. An alternative conception of applicatives is found in Croft (1994:95-6), where it is observed that

> …derived applicatives have the effect of assigning to direct object role some participant other than the "patient" (endpoint of the verbal segment) of the basic verb form.…The benefactive/malefactive represents the one situation in which a resulting state can cause something else to happen: a person's mental state can be altered by an otherwise static state of affairs. The mental state itself, being another state, is easily construed as the new endpoint of the event.

For Croft, subjects and objects represent the starting point and endpoint of the segment of a causal network that each verb represents (Croft 1994:92). Within this framework, dative applicatives are a shift in conceptualization from the patient as endpoint to the

dative as endpoint. The 'valency-increasing' function of applicatives would then be a side-effect of a conceptual shift to datives as endpoints.

(a) The dative applicative agrees with the object it adds to a verb's argument structure:

(37) *án-yaheyk-ís* 's/he is singing for me'
cín-yaheyk-ís 's/he is singing for you'
ín-yaheyk-ís 's/he is singing for him/her (another)'
pón-yaheyk-ís 's/he is singing for us'

(b) The dative applicative in Creek often adds an argument to a clause. With active verbs, the added argument is often interpreted as a benefactive:

(38) a. *cá·ni-t* *istaha·kocí-n* *ha·y-ís*
John-NOM doll-OBL make:LGR-INDIC
'John is making a doll'
b. *cá·ni-t* *cími-n* *istaha·kocí-n* *ín-ha·y-ís*
John-NOM Jim-OBL doll-OBL DAT-make:LGR-INDIC
'John is making a doll for Jim'

(c) The dative applicative may also add an argument that is adversely affected by the activity:

(39) *acani·y-itá* 'to peek' *im-acani·y-itá* 'to peek at (someone)'
akiłł-itá 'to cheat' *im-akiłł-itá* 'to cheat on, deceive'

In many cases it is difficult to decide whether the added argument benefits or is harmed by the activity, however:

(40) *ti·f-itá* 'to take off (two or more shoes or socks)' *in-ti·f-itá* 'to take (two or more shoes or socks) off of (someone else)'

The dative applicative thus serves to add a new endpoint: whether the endpoint benefits or is harmed by the activity is left to pragmatics.

(d) The benefactive and malefactive uses lead to a 'possessive' reading, most often seen when the patient is a body part (Martin ms.):

(41) *mo·mín* *ca-hálpi-ów* *an-litáf-ał-i·-t-o·k*
and 1sgII-skin-too 1sgDAT-tear.up-FUT-DUR-SS-say:LGR
'and it will tear my skin, too' (1936)

In examples like these, the dative applicative is commonly offered because the whole (possessor) is naturally affected by action on the part.

(e) The possessive reading may have led to a partitive reading seen in examples like the following:

(42) *acan-itá* 'to fill' *im-acan-íta* 'to fill (a part of something,

such as a gas tank)'

(f) The benefactive reading leads to a goal reading in some verbs:

(43)	*yaheyk-itá* 'to sing'	*<u>in</u>-yaheyk-itá* 'to sing for, to'
	oponay-íta 'to talk'	*<u>im</u>-oponay-itá* 'to talk for, to'
	laks-itá 'to tell a lie'	*<u>in</u>-laks-itá* 'to tell a lie to'
	onay-itá 'to tell (a story)'	*<u>im</u>-onay-íta* 'to tell to'
	atot-itá 'to send'	*<u>im</u>-atot-íta* 'to send to'

The goal use of the dative applicative is usually limited to transmission of an object to the added argument rather than movement of a subject to a destination. The dative applicative is thus not used to translate sentences like *John is walking to school* in which the agent undergoes movement.

(g) Instead, the dative applicative adds a source to verbs of motion:

(44)	*litk-itá* 'to run (of one)'	*<u>in</u>-litk-itá* 'to run from (someone, of one)'

It seems contradictory to construe a source as an 'endpoint' in Croft's framework, but becomes more plausible if one considers that the source may benefit or be adversely affected by removal. This effect is more easily seen in examples like the following:

(45)	*kapak-itá* 'to separate'	*<u>in</u>-kapak-itá* 'to leave (a person or place)'
	akoyk-itá 'to move'	*<u>im</u>-akoyk-itá* 'to move out of the way of'

There are many other uses of the dative applicative (signalling the reference point of a comparison, an argument collaborating in the performing of an action, etc.). In general, though, we have seen that the dative applicative adds a noun phrase in most uses and therefore can be described as valency-increasing. Yet such a description does little to explain the use of Creek *im-*. If *im-* were simply valency-increasing, it might add agents to stative verbs (like a causative), instruments, or patients. The specific uses of *im-* are better explained if *im-* is described in Croft's terms as shifting point of view to the secondary effect of an activity. Such an account explains the use of *im-* in benefactives and malefactives, possessive readings with inalienable objects, goal readings with verbs involving transmission, and even source readings when movement deprives or benefits a location.

(46) **Effects of the Creek dative applicative**

	Base form		Derived form
EXT. ORIENTATION	(no change)		
INT. ORIENTATION	patient	—>	secondary effect
CAUSE AVOIDANCE	(no change)		
ASPECT	(no change)		
SUBJ. AFFECTEDNESS	(no change)		
VALENCY	*n*-place predicate	—>	*n*+1-place predicate
TRANSITIVITY	intransitive	—>	transitive
	transitive	—>	ditransitive

5. Instrumental applicative: *is-*.

In addition to the dative applicative, Creek has an instrumental applicative *is-* (relating historically to *is-íta* 'to take, hold') that often adds an argument to a clause. I will argue that *is-* is better treated as shifting the internal orientation toward the manner in which the event takes place, and is thus better treated in terms of 'point of view' than in terms of valency.

(a) One use of the prefix *is-* in Creek is to add an instrumental object to a clause:

(47) a. *Bill cóˑka-n hóˑcceyc-ís*
Bill letter-OBL write:LGR-INDIC
'Bill is writing a letter'

b. *Bill ishoˑccéycka cóˑka-n isˑhóˑcceyc-ís*
Bill pen letter-OBL INST-write:LGR-INDIC
'Bill is writing a letter with a pen'

In this use it is valency-increasing: an *n*-place predicate becomes an *n*+1-place predicate.

(b) The prefix *is-* is not limited to instrumental readings, however. The instrumental is often added to a verb if the patient or theme of the verb is 'complex' (consisting of salient parts):

(48) a. *siskitá-n îˑs-ey-s*
cup-OBL hold:sg:FGR-1sgI-INDIC
'I'm holding a cup (one that's empty)'

b. *siskitá-n (i)s-îˑs-ey-s*
cup-OBL INST-hold:sg:FGR-1sgI-INDIC
'I'm holding a cup (one that contains something)'

The implication here is that the object is being held with something else (possibly inside it). Some objects are conventionally treated as being complex. Books, for example, often trigger the instrumental because they contain pages:

(49) *có·ka-n* *(i)s-î·s-ey-s*
book-OBL INST-hold:sg:FGR-1sgI-INDIC
'I'm holding a book'

Similarly, frames, pictures, dentures, eyeglasses, a harness (on a horse), and watches often trigger use of the instrumental because they have salient parts. This use of the instrumental applicative is not valency-increasing, however.

(c) The use of the Creek instrumental applicative is sensitive to the degree to which a speaker wishes to draw attention to an object that is secondarily involved in the event. While it is customary to use the instrumental for pictures, books, etc., other objects may or may not trigger the instrumental. A speaker may use the instrumental in speaking of an apron, for example, if the apron has a large pocket or a salient splotch of batter on it, or might use the instrumental in a sentence like 'Look at him sitting there!' if a man is sitting with his pants unzipped (Margaret Mauldin, p.c.).

(d) The instrumental applicative is often used with verbs of motion when the object undergoing motion is accompanied by another argument:

(50) *litk-itá* 'to run (of one)' *is-litk-itá* 'to run off with (something, such as a book, or bearing something, as of a horse, of one)'

The object undergoing motion must be in control of the activity, however.

There are a number of other uses of the instrumental applicative that could be described with more space. The data examined here are sufficient to show that a description of the prefix in terms of valency alone fails to explain uses where it is not valency-increasing. In their close proximity to verbs, applicatives thus appear to enter the event structure of predicates, and thus differ semantically from adpositions. The effects of the instrumental applicative can be summarized in the following chart:

(51) **Effects of the Creek instrumental applicative**

	Base form		**Derived form**
EXT. ORIENTATION	(no change)		
INT. ORIENTATION	patient	—>	manner
CAUSE AVOIDANCE	(no change)		
ASPECT	(no change)		
SUBJ. AFFECTEDNESS	(no change)		
VALENCY	*n*-place predicate	—>	*n*(+1)-place predicate
TRANSITIVITY	intransitive	—>	(in)transitive
	transitive	—>	(di)transitive

6. Direct causative: *-ic-*.

A direct causative is often described as adding an agent to a verb's argument structure, converting an *n*-place predicate to an *n*+1-place predicate. Creek has a suffix *-ic-* (*-.c-*, *-yc-*, *-iceyc-*, *-yci.c-*) that appears to have this same function.

Like the other processes discussed in this paper, the direct causative can be viewed in terms of voice rather than in terms of valency, however. Croft (1994), for example, characterizes direct causative derivation as shifting the conceptualization of the starting point in a clause to a prior cause in a chain of causation. Direct causatives are commonly found with states because states "can be easily construed as a final endpoint of a causal chain" (Croft 1994:94).

(a) The direct causative is common in Creek, though most of the examples of the suffix are almost certainly learned rather than created spontaneously. For this reason, I do not separate the direct causative with a hyphen. The direct causative is most commonly applied to nonagentive states or inchoatives:

(52) *il-íta* 'to die (of one)'	*ili·c-itá* 'to kill (of one)'
hic-íta 'to see'	*hiceyc-itá* 'to show'
łákk-i· 'big'	*łakkoyc-itá* 'to enlarge'
kancap-í· 'low'	*kancapoyc-itá* 'to lower'
kálp-i· 'dry'	*kałpi·c-itá* 'to dry (something)'
cákh-i. 'sticking in (of one)'	*cakhi·c-itá* 'to stick (one) in'
call-itá 'to roll (as of a tire)'	*calli·c-itá* 'to roll (a tire, etc.)'
asl-itá 'to go out (of a fire)'	*asli·c-itá* 'to put out (a fire, a light), erase'
cá·t-i· 'red'	*ca.ti·c-itá* 'to redden (something)'
hoył-itá 'to stand (of one)'	*hoyłeyc-itá* 'to stand (one)'
lomh-itá 'to lie (of three or more)'	*lomheyc-itá* 'to lay (three or more)'
kiłł-itá 'to know'	*kiłłeyc-itá* 'to inform'
noł-íta 'to be cooked'	*nołeyc-itá* 'to cook (something)'
fikhonn-itá 'to stop'	*fikhonneyc-itá* 'to stop (something)'

A vowel appearing before a direct causative is generally derived from a verb-final vowel historically. The appearance of this vowel is extremely limited in Creek outside of the direct causative and its quality is partially predictable.[9]

(b) As the translations in (52) suggest, the Creek direct causative is commonly used when there is a single event effected by an intentional causer acting directly to manipulate a causee who is portrayed as having virtually no control over the event, as being completely affected, and possibly as being an unwilling partner in the event. Direct causatives are commonly formed from one-place states, though two-place verbs and activities are also possible base forms:

(53) *homp-itá* 'to eat' *hompeyc-itá* 'to feed'

[9]The stem-vowel is generally /a/ (raising to /e/ before tautosyllabic /y/) when the preceding vowel is /i/ or /o/; the stem-vowel is generally /i/ when the preceding vowel is /a/. An /i/ stem-vowel sometimes rounds to /o/ after /k/ and /p/ for some speakers. Thus, *kancapV-ic-itá* 'to lower' surfaces as *kancapoyc-itá*.

isk-itá 'to drink'	*iskoyc-itá* 'to give drink'
linta·pp-itá 'to stumble'	*linta·ppoyc-itá* 'to trip'

Because the causee is at the complete mercy of the new agent in the direct causative, the direct causative could alternatively be called a transitivizer. Just as the semantics of one-place middle verbs is indistinguishable from one-place intransitive verbs, the semantics of two-place direct causatives is indistinguishable from two-place transitives.

(c) Deponent middles delete *-k-* before the direct causative. In this case, there is no stem vowel:

(54) *fáck-i·* 'full'	*facic-itá* 'to fill'
fásk-i· 'sharp'	*fasic-itá* 'to sharpen'
tánk-i· 'empty'	*tanic-itá* 'to void'
fink-itá 'to blaze'	*finic-itá* 'to light (a fire), turn on (a lamp)'
hátk-i· 'white'	*hatic-itá* 'to whiten'
hasátk-i· 'clean'	*hasatic-íta* 'to clean'
háwk-i· 'open'	*hawic-itá* 'to open'
leyk-itá 'to sit (of one)'	*leyc-itá* 'to set (one)'
wakk-itá 'to lie (of one)'	*wakic-itá* 'to lay (one)'

Deletion of the middle in deponent verbs presumably arose because these events were no longer self-contained, and thus no longer middle in point of view.[10]

(d) The causee is case-marked like other objects, with oblique *-n*:

(55) *honánwa-t* *istocí-n* *hómpeyc-ís*
male-NOM baby-OBL eat:DIRECT.CAUS-INDIC
'the man is feeding the baby'

(e) The direct causative suffix *-ic-* also has a pluralizing function. With verbs having a theme or patient as subject, *-ic-* indicates a triplural theme or patient (three or more):

(56) *tamk-itá* 'to fly (of one)'	*tamic-itá* 'to fly (of three or more)'
somk-itá 'to disappear (of one)'	*somic-itá* 'to disappear (of three or more)'

With verbs having a plural theme or patient as object, *-ic-* is combined with reduplication:

(57) *halat-itá* 'to hold (one)'	*halatheyc-itá* 'to hold (two or more)'
ton-íta 'to trim (one)'	*tontoyc-itá* 'to trim (two or more)'

The plural use of *-ic-* is clearly related to the direct causative use. Note that deponent middles lose *-k-* in the plural forms in (56), just as in direct causatives.

The plural use of *-ic-* appears to take priority over the direct causative use, however. When a given verb has a triplural reading attached to *-ic-*, a direct causative must be

[10]The reflexive middle in Italian is also deleted under causativization (Martin 1991a).

formed another way. In this case, Creek has a special long form *-iceyc-* (*-yci·c-*) to indicate a direct causative:

(58) *tamk-itá* 'to fly (of one)' *tamiceyc-itá* 'to make (one) fly, flush'
somk-itá 'to disappear (of one)' *somiceyc-itá* 'to lose (one)'

The nature of the connection between number and causation is difficult to explain, though not without precedent (see, for example, Breen 1981:339 for a similar case of polysemy in Margany).

(f) In two or three instances, the direct causative appears to add an object. Thus, *apil-itá* 'to laugh' has a related form *apileyc-itá* that means 'to laugh at' rather than 'to make laugh'. In these exceptional examples, the primary object has been reinterpreted as a secondary object (see also Dixon's description of Yidiny, chapter 2).

The effects associated with causativization are charted in (59):

(59) **Effects of the Creek direct causative**

	Base form		**Derived form**
EXT. ORIENTATION	usu. patient or theme	—>	cause
INT. ORIENTATION	(usu. not present)	—>	causee
CAUSE AVOIDANCE	(no change)		
ASPECT	usu. state or inchoative	—>	activity
SUBJ. AFFECTEDNESS	sometimes affected	—>	usu. affected
VALENCY	*n*-place predicate	—>	*n*+1-place predicate
TRANSITIVITY	intransitive	—>	transitive
	transitive	—>	ditransitive

In most instances, the direct causative in Creek serves to assign responsibility for a state or inchoative to an external cause, thereby portraying the causee as a patient. This leads to aspectual shifts as well as shifts in valency and transitivity. These side-effects can be understood in terms of a shift in point of view to a prior starting point, however, while describing the process as valency-increasing fails to distinguish the direct causative from an applicative and fails to link causation to aspect.

7. Indirect causative: *-ipeyc-*.

In addition to the direct causative discussed in **6**, Creek has an indirect causative formed by adding *-ipeyc-* (or *-ipoyc-* for some speakers) to the verb root. Grayson (1885) records the following examples:[11]

[11]George Washington Grayson was Principal Chief of the Creek Nation from 1917-1920. I have phonemicized his orthography.

(60) *cími-t* *cá·ni-n* *náfk-ipoyc-ís*
Jim-NOM John-OBL hit-make:LGR-INDIC
'James is causing John to strike'

(61) *paksankí·-n* *cató-n* *aweyk-ipôyc-ay-ank-s*
yesterday-OBL stone-OBL throw-make:FGR-1sgI-PST-INDIC
'I caused him to throw a stone yesterday'

(62) *páksi-n* *'kapotóka-n* *ohhompitá-n* *oh-leyc-ipóyc-á·ł-i·-s*
tomorrow-OBL hat-OBL table-OBL on-set:sg-make-1sgI:FUT-DUR-INDIC
'I will cause him to put his hat on the table tomorrow'

As these translations suggest, the indirect causative adds a higher causative predicate and agent to the clause structure. The added causer is marked in the nominative, and the causee and all other nonsubjects are marked in the oblique.

(a) The indirect causative is semantically distinct from the direct causative, as the following translations suggest:

(63) *honánwa-t* *istocí-n* *hómpeyc-ís*
male-NOM baby-OBL eat:DIRECT.CAUS:LGR-INDIC
'the man is feeding the baby' (as by spooning food into the baby's mouth)

(64) *honánwa-t* *istocí-n* *hómp-ipeyc-ís*
male-NOM baby-OBL eat-make:LGR-INDIC
'the man is making the baby eat' (perhaps by commanding the baby)

In the direct causative, the causee has no control over the event. In the indirect causative, the causee retains control over the activity while losing ultimate responsibility for the action. In the direct causative (64a), the act of causation and the state effected are virtually inseparable. In the indirect causative (64b), the two activities are separable to a degree. These differences can be shown by examining the use of the instrumental (Martin 1991a:216):

(65) a. **istocí* *ínki-n* *is-hómpe-yc-éy-s*
baby 3:hand-OBL INST-eat-DIRECT.CAUS:LGR-1sgI-INDIC
Lit., 'I'm feeding the baby with his hand'

b. *istocí* *ínki-n* *is-hómp-ipeyc-éy-s*
baby 3:hand-OBL INST-eat-make:LGR-1sgI-INDIC
'I'm making the baby eat with his hand'

As (65a) shows, an instrumental cannot be construed with the secondary predicate of a direct causative because there is not enough separation between the events and the causee lacks control. In the indirect causative in (65b), however, the causee can be construed as using an instrument to effect a secondary event.

(b) Anaphora points to a further difference between the direct and indirect causatives. The direct causative (66a) is just like a transitive verb (66b) in disallowing a pronominal prefix to be coreferent with a subject in the same clause:

(66) a. **ca-híceyc-éy-s*
1sgII-see:DIRECT.CAUS:LGR-1sgI-INDIC
Lit., 'I'm showing me'

b. **ca-na·fk-éy-s*
1sgII-hit:LGR-1sgI-INDIC
Lit., 'I'm hitting me'

An indirect causative allows a pronominal prefix to be coreferent with the matrix subject, and in this respect acts as though there are two clauses in the structure:

(67) *cími-n* *ca-náfk-ipeyc-éy-s*
Jim-OBL 1sgII-hit-make:LGR-1sgI-INDIC
'I'm making Jim hit me'

This grammatical contrast supports the claim that the contrast between direct and indirect causatives involves the separation of events.

(c) The causee in the indirect causative need not have any control over the secondary event: in fact, zero-place predicates may be causativized in this way:

(68) *ósk-ipeyc-ís*
rain-make:LGR-INDIC
's/he is making it rain' (as perhaps through the use of medicine)

The form in (68) confirms that it is conceptualizing the event as two causally-related activities that triggers the indirect causative rather than agency or valency.

There are many other details involved in the indirect causative, but the basic properties can be charted as in (69):

(69) **Effects of the Creek indirect causative**

	Base form		**Derived form**
EXT. ORIENTATION	usu. cause	—>	prior cause
INT. ORIENTATION	patient	—>	causee
CAUSE AVOIDANCE	(no change)		
ASPECT	activity	—>	activity
SUBJ. AFFECTEDNESS	usu. not affected	—>	usu. affected by prior cause
VALENCY	*n*-place predicate	—>	*n*+1-place predicate
TRANSITIVITY	intransitive	—>	transitive
	transitive	—>	ditransitive

The indirect causative can thus be seen as a shift in point of view from one starting point to a prior starting point through the addition of the causative activity.

8. Interaction of voice-related processes.

A rough description of the interaction of the processes discussed in this paper can be captured in the form of a chart:

(70) [INSTR-DAT-[*verb*-MIDDLE-DIRECT.CAUS]-INDIR.CAUS.]-IMPERS

As (70) suggests, the impersonal plural may apply to actives and middles (71) as well as direct and indirect causatives (72):

(71) a. *íhhoy-ís* (ACTIVE)
hide:IMPERS.PL:LGR-INDIC
'they/people are hiding it'

b. *í·hho·k-ís* (MIDDLE)
hide:MID:IMPERS.PL:LGR-INDIC
'they/people are hiding'

(72) a. *hompéyho·c-ís* (DIRECT CAUSATIVE)
eat:DIRECT.CAUS:IMPERS.PL:LGR-INDIC
'they/people are feeding it'

b. *homp-ipéyho·c-ís* (INDIRECT CAUSATIVE)
eat-make:IMPERS.PL:LGR-INDIC
'they/people are making him eat'

A clause with an impersonal plural subject may not be causativized, however:

(73) **nafhok-ípeyc-ís*
hit:IMPERS.PL-make:LGR-INDIC
's/he makes them/people hit'

The diagram in (70) also captures the fact that middles are never formed from causatives:

(74) **hompéyc-k-i·*
eat:DIRECT.CAUS-MID-DUR
'fed'

A middle voice form is also sometimes judged to be odd as the complement of an indirect causative, however:

(75) **í·hk-ipeyc-ís*
hide:MID-make:LGR-INDIC
's/he is making him/her hide'

The dative, instrumental, impersonal, and causative are all compatible with each other, occurring in the order predicted by (70):

(76) *(i)s-in-tac-ipéyho·c-ís*
INST-DAT-cut-make:IMPERS.PL:LGR-INDIC
'they/people are making him/her cut it for him/her with it'

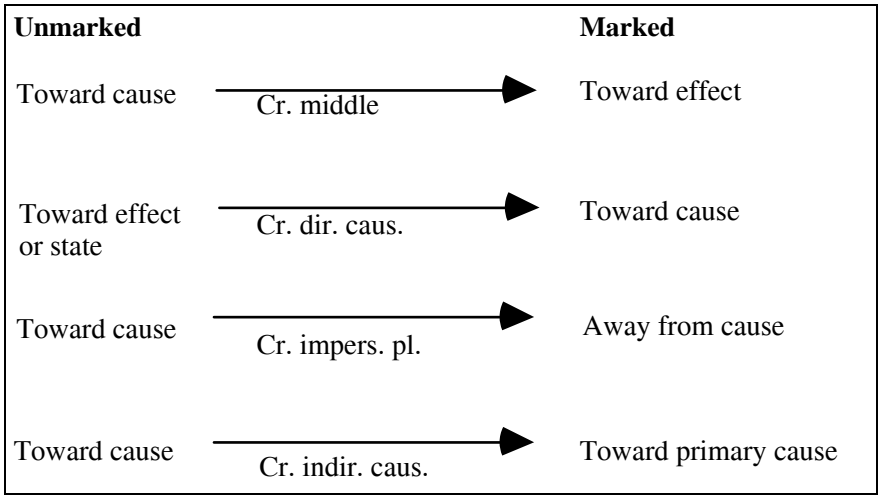
When other applicative processes are taken into consideration, we find that derivation in Creek can add as many as four arguments to a clause, in principle allowing seven-place verbs to be derived from basic three-place verbs.

It is important to examine the interaction of these voice-related processes to see whether there is any grammatical evidence in Creek that they form a single system. We have already seen that there is close interaction between the middle and the direct causative, because the middle usually deletes in the presence of the direct causative (54). It is further possible to distinguish the preverbal and postverbal affixes, however: the former shift point of view within the verb phrase to a new object; the latter revolve around the status of the subject. Instead of claiming there is a single, overarching category of voice or valency in Creek then, it seems that there are two grammatical systems dealing with the information status of objects and subjects.

9. Conclusion.

Two systems of orientation operate in Creek at the external (clause) level and at the internal (predicate) level. At the external level, predicates are either oriented toward the cause or toward an effect or state. Postverbal elements (suffixes or infixes) are used to create changes in this basic orientation. The Creek middle shifts attention from causes to effects (states or inchoatives). The Creek direct causative has the opposite function of shifting attention from effects to causes. The Creek impersonal plural serves to background the cause. Finally, the Creek indirect causative introduces primary causes:

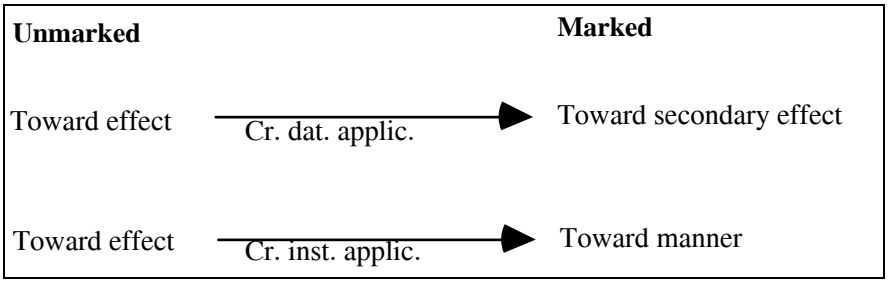
(77) **Postverbal elements changing external (clause-level) orientation**



This pattern contrasts sharply with English, where passive voice combines functions of the Creek middle and impersonal plural.

The voice-related prefixes in Creek can be described in terms of the changes they bring about in internal (predicate-level) orientation:

(78) **Preverbal elements changing internal (predicate-level) orientation**



Within a predicate, the unmarked orientation is toward the effect. The dative and instrumental applicatives function to reorient the predicate toward secondary effects (benefactives or malefactives) and/or toward manner (how the activity was performed), respectively.

Describing these two systems of external and internal orientation as a single phenomenon of 'voice' may be too broad, but as we have seen, it offers certain advantages over descriptions involving valency. Describing the Creek middle as valency-reducing fails to explain why it fails to create S=A intransitives (e.g., *John cooks*). Describing causatives and applicatives as valency-increasing ignores the important functional differences between these patterns. Describing a causative as 'adding an agent' ignores the fact that aspect is often affected in direct causatives and that indirect causatives add an event in addition to an agent.

In describing the Creek phenomena in this paper, I have begun to question whether valency or valency changing have any real significance in language. It is clear that verbs can be classified based on the number of arguments they take, but it is not clear that this classification functions elsewhere in the grammar. The chemical metaphor has been useful in allowing linguists to categorize morphological processes and lends a certain scientific aura to our work, but it remains to be seen whether describing a particular process as adding or subtracting an argument adequately characterises its function or whether humans engage in arithmetic processes as they speak.

This paper has begun to suggest a way that valency can be reduced to event view. Valency can be seen as the ability of a predicate to incorporate entities into a particular event view, thus assigning those entities roles within the clause. Predicates that customarily involve an initiator and one or more affectees (*John painted the house*, *Mary gave John a book*) will develop grammars in which the inclusion of these entities is unmarked; clauses in which there is no initiator (*The snow is white*) or where the initiator is unknown and the endpoint is of interest (*The snow melted*) will develop unmarked forms with fewer arguments. Just as valency is the codification of these unmarked event

views, valency-changing processes are perhaps better described as changes in event view from the unmarked to a marked perspective.

If this approach is right, then it may be time for a new metaphor in linguistics: perhaps the chemical metaphor has exceeded its half-life.

Texts cited

1936. Mary R. Haas, Creek Notebook I, University of California, Berkeley.
1939. Mary R. Haas, Creek Notebook XV, University of California, Berkeley.
1992a. Stories told by Linda Alexander, Norman, Oklahoma.
1992b. Stories told by Toney Hill, Norman, Oklahoma.
1992c. Stories told by Robert Washington, Norman, Oklahoma.

References

Baker, M. C. 1988. *Incorporation: a theory of grammatical function changing*. Chicago: University of Chicago Press.

Barber, E. J. A. 1975. 'Voice: Beyond the passive', *Berkeley Linguistics Society*, 1:16-23.

Booker, K. M. 1984. 'Directional prefixes in Creek', pp. 59-87 of *Proceedings of the 1983 Mid-America Linguistics Conference*, edited by D. S. Rood.

Breen, J. G. 1981. 'Margany and Gunya', *Handbook of Australian languages*, volume 2, edited by R. M. W. Dixon and B. J. Blake. Canberra: Australian National University Press.

Comrie, B. 1989. *Language universals and linguistic typology: syntax and morphology*, 2nd edn. Chicago: University of Chicago Press.

Croft, W. 1994. 'Voice: Beyond control and affectedness', pp. 89-117 of Fox and Hopper, 1994.

Crystal, D. 1985. *A dictionary of linguistics and phonetics*, 2nd edn. Oxford: Basil Blackwell.

Dixon, R. M. W. and Aikhenvald, A. To appear. 'A typology of argument-determined constructions', *Essays on language function and language type*, edited by J. Haiman et al. Amsterdam: John Benjamins.

Fox, B. and Hopper, P. J. 1994. *Voice: form and function*. Amsterdam: John Benjamins.

Grayson, G. W. 1885. 'Creek vocabulary and verb paradigms with occasional ethnographic notes', National Anthropological Archives #568-a. Smithsonian Institution, Washington, D.C.

Haas, M. R. 1940. 'Ablaut and its function in Muskogee', *Language*, 16:141-50.

1977. 'From auxiliary verb phrase to inflectional suffix', pp. 525-37 of *Mechanisms of syntactic change*, edited by C. N. Li. Austin: University of Texas Press.

Hardy, D. E. 1988. *The semantics of Creek morphosyntax*. Rice University PhD thesis.

1994. 'Middle voice in Creek', *IJAL,* 60:39-68.

Hopper, P. J. and Thompson, S. A. 1980. 'Transitivity in grammar and discourse', *Language*, 56:251-299.

Jespersen, O. 1924. *The philosophy of grammar*. London: George Allen and Unwin.

Kemmer, S. 1993. *The middle voice*. (Typological Studies in Language.) Amsterdam and Philadelphia: John Benjamins.

Klaiman, M. H. 1988. 'Affectedness and control: a typology of voice systems', pp. 25-83 of *Passive and middle voice*, edited by M. Shibatani. Philadelphia: John Benjamins.

Martin, J. B. 1991a. 'Lexical and syntactic aspects of Creek causatives', *IJAL,* 57:194-229.

1991b. *The determination of grammatical relations in syntax*. UCLA PhD thesis.

ms. 'External possession in Creek'.

Martin, J. B. and Mauldin, M. M. ms. *A dictionary of Creek (Muskogee) with notes on the Florida and Oklahoma Seminole dialects of Creek*.

Munro, P. 1996. 'Valence arithmetic in the Tolkapaya lexicon', pp. 113-129 of *Proceedings of the Hokan-Penutian Workshop*, edited by V. Golla. (Survey of California and Other Languages Report, 9.) Berkeley: University of California.
Munro, P. and Gordon, L. 1982. 'Syntactic relations in Western Muskogean: A typological perspective', *Language*, 58:81-115.
Nathan, M. 1977. *Grammatical description of the Florida Seminole dialect of Creek.* Tulane University PhD thesis.