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The Functional Equivalents of the Middle
Voice in Child Language
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This paper is motivated by the observation that children of three different linguistic backgrounds, at about the same early age, seem to start using or inventing diverse formal means in roughly similar extralinguistic contexts: namely, situations in which children talk about changes as changes of states (or as "events", for short), rather than as actions brought about by intentional agents. In trying to discover a functional unity for these diverse forms, we were struck by the similarity between the direction our formulations were taking and Gonda's characterization of the Indo-European middle voice. More specifically, the children's use of the *passato prossimo* in Italian, the aorist inflection and its interaction with the passive in Turkish, and the middle verbs and their interaction with the *-s* inflection and explicit causatives in English, all seem to be serving the function Gonda posits for the Indo-European middle voice - namely, eventivity. The aim of this paper is to document this parallelism as an overture to a later investigation of the expression of causality in child language.

EVENTIVITY

According to Gonda (1975), "the hypothesis seems to be plausible that in prehistorical times, a widespread use was already made of the middle forms to indicate that something comes or happens to a person (or object), [something] befalls him, takes place in the person of the subject so as to affect him, without any agent being mentioned, implied or even known" (pg. 49). That is, for Gonda, in uttering a sentence in the middle voice, the Proto-Indo-European speaker would commit himself only to the occurrence of a change of state in the grammatical subject, without taking a stand on how this change of state may have come about. It is these sorts of constructions that Gonda proposes to call "eventive" constructions.

Although historically, the middle voice is related to the later passive forms, Gonda insists that eventivity and passivity are notionally distinct. Central to this distinction is the absence of any implication of agency in the middle forms. Thus, whereas the passive constructions represent an entity as suffering someone else's actions, eventive constructions represent the change designated by the verb, as belonging to the entity that undergoes the change.

Moreover, Gonda contends that if the implications of his characterization of eventivity were to be spelled out, an account of the reflexive and reciprocal uses of the middle voice, as well as its more apparently eventive dynamic use, would follow.

However, in this paper, we will concentrate on the parallelisms between the more prototypically eventive uses of the middle voice in Indo-European (the dynamic use) and children's eventive forms - thus postponing a discussion of the parallelism between its other uses and children's use of the reflexive and reciprocal expressions for a later date.

It should be reiterated that central to Gonda's characterization of eventivity is the fact that the subject which agrees with the middle voice verb is not an agent. Rather, this subject refers to an entity which manifests the change referred to by the verb. Moreover, this entity is not represented as a patient undergoing the action or an implied or deleted agent, but rather as the "seat" of the change. The three forms we will be considering share this central characteristic. We shall start with the Turkish data.

TURKISH

A brief characterization of the Turkish aorist and the passive are in order. The Turkish aorist, a polysemous inflection, gets added to the stem of the verb. Although grammarians disagree as to how its various meanings should be related to one another, the meanings often cited include: habituality, future reference, and tentativeness. Moreover, it seems to interact with person.

As for the passive, the verb is passivized in Turkish by the addition of the passive morpheme directly to the root of the verb, before the tense-aspect inflection. The Turkish passive is usually agentless. The domain on which the passive may operate is much wider than in English, in that (at least) some intransitive sentences may also be passivized.

The Turkish data was collected by A. Aksu for her dissertation: "Aspect and Modality in the Child's Acquisition of the Turkish Past Tense", 1978. We will be re-analyzing the speech of one girl and two boys from 2 - 2 1/2 years of age.

The most general point to be mentioned is that across all three children, the passive is used only with the third person. Furthermore, it can be seen from Table I that the earliest occurrence of the passive morpheme is restricted to negative sentences in the present tense. So for instance, sentences such as "It is not being opened"/ "Açılmıyor" are common, while no sentences such as "It is being opened"/ "Açılıyor" occur. At this first level in the development of the passive, the aorist has not yet made its appearance either.

At level II, the passive morpheme does appear in affirmative sentences. However, in these affirmative contexts the passive is restricted to the newly emerged aorist inflection, whereas in the present tense, the passive is still restricted to negative sentences. Furthermore, these passive sentences do not stand on their own. Almost all instances are immediately preceded or followed by another utterance which contains the active counterpart of the very same verb in the first person. The data reviewed so far is summarized in Table I.

TABLE I
Turkish
 Schematic Representation
 All Passives are in the 3rd Person

<u>Level I:</u>	V-Present	
A	V-Negative Present	No Aorist
	*V-Passive Present	Inflection
	V-Passive Negative Present	
<u>Level II:</u>	V-Present	V-Aorist (1st P.)
	V-Negative Present	V-Passive Aorist
	*V-Passive Present	*V-Negative Aorist
	V-Passive Negative Present	*V-Passive Neg. Aorist

EXAMPLES

<u>Level I:</u>	Açılmıyor	
A	Open-Pass-Neg-Pres	It is not being open
Pres. Tense	Kapanmıyor	It is not being closed
	Close-Pass-Neg-Pres	
	Yakılmıyor	It is not being lit
	Light-Pass-Neg-Pres	

The affirmative versions of these sentences do not obtain

<u>Level II:</u>	Passive-Negative-Present tense sentences are the	
K & Y	same as in Level I. And, as in Level I, no	
Pres. Tense	Passive-Affirmative-Present tense sentences	
	are found.	
Aorist	Taşıırım	
	Carry-Aorist-1st sing.	I carry it
	Taşıır	
	Carry-Pass-Aorist	It carries
	Burban Babaane'ye gidilir	
	Here-Ablat. Grandma-Dat	From here it is gone
	Go-Pass-Aorist	to the grandma's. (He
		leads to the grandma's)
	Açarım	
	Open-Aorist-1st sing.	I open it
	Açılır	It opens

* indicates forms which are ungrammatical for children

In order to understand the proposed interpretation of the data, it must be noted that the use of the aorist is restricted to very specific contexts: namely those contexts in which what is at the center of the child's attention are the functional-physical properties of familiar objects. Essentially these are contexts involving instruction, demonstration, and exploration of objects - contexts in which objects per se are being focused upon.

What the distributional evidence cited so far suggests is the emergence in children's speech of two distinct but interdependent innovations to talk about events as events. First we have the passive. Given the fact that the passive can be characterized as making the verb agree with its object, what does its early restriction to negative sentences suggest about its meaning for the children?

In the negative passive sentences in which the verb is made to agree with its object, the non-occurrence of an event is thereby attributed to its object. Being unable to open a box, the contents of which she wants to have, the child says "It's not being opened"/ "Açılmıyor". In this example and many other similar ones, the object agreement indicates that the non-occurrence of the opening of the box is attributed to something about the box. It is not a non-occurrence that the child has willed, but rather one that arises out of the properties of the box. It would seem that the earliest occurrences of the passive are restricted to reporting those cases in which the child's intentions/plans are frustrated due to the resistance from an object. This fits all the cases of the earliest uses of the passive morpheme in Aksu's data analyzed so far.

Thus, we interpret the use of these negative passive forms as indicating that the child has encountered events which can't be expressed within an agentive framework. An unsuccessful action due to the object's resistance isn't amenable to an agentive description. If the child were to use an affirmative sentence, at best what she could do would be to give a stative description of the 'culpable' property (eg. "It's hard".. and therefore won't bend), but what she can't do is to affirmatively describe a non-agentive change in the object that is made possible by these properties (eg. "It bends"). The report of such a change is what we want to refer to as eventivity: namely the ability to describe objects as manifesting changes, rather than agents bringing about the changes in those objects.

However, the passive by itself cannot function as such an eventivity marker because even when it makes the underlying object into the surface subject, the remaining verb morphology (the person and tense-aspect inflections) would still interpret this surface subject as the agent. This might explain why the children do not use the passive in affirmative contexts at the first level. Thus, the child needs at his disposal not only a way of attributing the verb to the object, but also a formal means to express a different kind of relationship between the object and the change it undergoes, than agency. The newly acquired aorist

is used for this purpose. In suppressing any implication of agency, the aorist functions as such an "eventivity" marker (in the sense of Gonda). It serves to represent the object as "manifesting" the change without the "agent being mentioned or even implied". That is, the aorist sentences serve to represent what the objects 'can do' in light of their physical-functional capacities (like their 'attach-ability', or 'open-ability'). In other words, these sentences represent the changes the objects undergo in virtue of such intrinsic functional-physical properties, and not in virtue of agentive volition.

Yet if we look at the aorist examples in Table I, it will be noticed that some of them are in the first person active voice and thus seem to contradict our eventive interpretation. However, these first person uses are not randomly distributed in the children's corpora. Each occurrence requires a preceding or following third person passive aorist counterpart of the same verb. Thus we get lots of examples such as "I open it"/"Açarım" coupled with "It opens"/"Açılır". We want to argue that these first-third person active-passive couplings, which use the same verb with the aorist inflection in quick succession, are not mere "performance" options. But rather that these couplings are a necessary prerequisite for the later independent use of the third person aorist sentences.

This sort of data beautifully elucidates Piaget's developmental claim about the acquisition of physical concepts about objects. According to Piaget, children first discover functional-physical properties of objects through the manipulations they themselves perform on those objects. This means that object properties ultimately derive from the child's own manipulations.

Thus, what we want to claim is that the two children at Level II, are making explicit the way in which they come to know objects as independent sources of events. That is, the first and third person couplings represent both the way in which children come to discover events and the resultant representation of those events. These conclusions are supported by the following facts: 1) The third person passive constructions only occur in those contexts in which the child is actually enacting the event designated by the verb; 2) The children use the active and the passive voice of the same aorist inflected verb within a very short sequence - predicating the same verb now of themselves (first person) and now of the object (third person); and 3) Some of the third person constructions stand on their own independent of a first person counterpart, but the obverse situation never obtains. This suggests that the third person use is developing out of the amalgamated first and third person uses.

Given this sort of data, we want to claim that this tandem use of the aorist in the first and third person, which is conversationally redundant, captures the process of disovering facts about the object (what happens to it) - from what the agent does. In other words, by using the same verb in the aorist, in both the first and third person, the child is effectively able to objectify her manipulations and ascribe them to the object. Soon the third person uses will be able to stand on their own and the

child will be able to express the powers of the objects without any reference to himself.

Thus, the Turkish data suggests that eventivity is a homogeneous functional category whose acquisition is a complex formal achievement for children. Moreover, although Turkish does not have any obvious eventivity markers, the newly acquired forms like the passive and the aorist are restrictively combined so as to create a marking for this notion.

ITALIAN

The next source of seemingly corroborative data for the significance of eventivity in children's early speech, comes from a re-interpretation of the Italian data reported in the nice observational study by Antinucci and Miller. According to Antinucci and Miller (1976), when children acquire the passato prossimo construction, they make the past participle agree with the object instead of the subject as is required by the adult grammar.

In their words, in these constructions, the verb is characterized as an attribute of its object rather than as an action performed by an agent. Furthermore, this agreement is restricted to a newly acquired verb form - the auxiliary plus the past participle. Thus, it would seem that at a similar age, the Italian children not only make the verb agree with its object, but also use a novel verb form to express the relationship between the object and the change it undergoes. On the basis of the Turkish data, we have already suggested that eventivity consists in precisely these two related achievements. Thus we have strong reason to suppose that the nascent use of the passato prossimo expresses eventivity for young Italian children.

ENGLISH

Now on to the English data. The first corpus to be analyzed is the one collected by Roger Brown and his associates from Adam (reported in *inter alia*, Brown 1973). Our analysis will cover the age span 2;8 - 3;1 and thus focuses in on a later stage of language acquisition than for the Turkish children.

The reason for honing in on a later stage is as follows: At this stage, two new forms make their appearance in Adam's speech: the third person present tense inflection and periphrastic causative constructions (see Bowerman 1974 for a fuller documentation of the latter phenomenon in children's speech). As is usual for emergent forms, their nascent uses are restricted. We are going to argue that one can account for these restrictions by positing a functional category like eventivity which ranges over the use of certain verbs in certain contexts. In other words, we will argue that unless Adam already has some prior articulation of "eventivity", his restricted use of the periphrastic causatives and the -s inflection seem rather anomalous. Instead, our hypothesis that children mark eventivity will make these restrictions intelligible.

The data on which these conclusions are based follow. What is most striking is the fact that the verbs which embed under the explicit causative verbs and the verbs which take the -s inflection form an overlapping class. Moreover, these verbs exhibit another interesting feature: namely they are used both transitively and intransitively such that the object of the transitive sentence occurs in the subject

position of the intransitive sentence. Following traditional usage, we will call these verbs "middle verbs". To give an example, sets like the following are common.

A door opens.	It walks.	It fits.
I open the door.	I walk him.	I fit it.
I put the door open.	Make him walk.	I make it fit.

Of course, not all of Adam's verbs occur in this paradigm. In fact, other transitive verbs such as GIVE and THROW, and propositional attitude verbs such as WANT and LIKE are left uninflected when they occur in the third person present tense. Some examples follow.

Daddy give it to me. (Non imperative)
 A cow dance.
 He want it.
 He throw it.

In fact the only other class of morphemes which do occur after explicit causative verbs are particles like IN, OUT, OFF, ON, AWAY, and BACK - and they occur in these contexts without a following noun phrase. These particles will be dealt with in the next section. For now, we shall try to characterize the limited class of verbs which occur in periphrastic causative constructions and which take the -s inflection.

Periphrastic constructions occur if and only if the clause embedded under the causative verb occurs elsewhere as a full sentence with the -s inflection. Remembering the paradigmatic example, "A door opens" and "I put the door open", it seems to be the case that only if an event is capable of being described without any reference to an agent or a cause, (as in "A door opens"), can it then also be described by a periphrastic causative sentence (as in "I put the door open"). Thus sentences like "A door opens" are eventive constructions and hence do not express any causality on their own. Consequently, in order to receive a causal interpretation, they must embed under an explicit causative form. The eventive interpretation of such sentences is best reflected in an almost prototypical example: the way in which Adam talks about his mechanical toys which work by being wound up. That is, their movement is not brought about by any volition but rather is due to the object's mechanical powers. When it is predicated of such a toy, Adam inflects a verb of motion like WALK with the -s inflection ("It walks"), but the same verb remains uninflected elsewhere.

What we are claiming is that at some point, Adam has recognized the distinction between a subject who intends to bring about a change of state, and a non-agentive subject which has the power to manifest a change of state. The -s inflection is restricted in its incipient use to cases of the latter non-agentive variety. Thus, we suggest that the -s inflection is initially used to distinguish eventive intransitive sentences like "A door opens" from agentive intransitive sentences like "He dance" - which noticeably is not marked with the -s inflection. Such a conclusion rules out the

hypothesis that the -s inflection is being used as an intransitivity marker irrespective of agency. Of course, we are not suggesting that this discriminatory function of the -s exhausts the meaning of the -s form for Adam.

However, if these -s inflected verbs are indeed eventive as we have argued, what about the transitive uses of the same verbs? What is the relation between the transitive and the intransitive uses? The interpretive problem this question raises is analogous to the one we have encountered with respect to the first person active aorist sentences in Turkish. Therefore, we offer the same interpretation in both cases. The third person eventive intransitive sentences represent the eventual objectification of the manipulation children themselves perform on objects. The first person forms make explicit the way in which children discover the properties expressed by the third person forms. For example, the child experiences his own opening of doors innumerable times; this gives him the framework to understand both that he, as an agent can open a door, but also that the door can open - that it is an openable. With this eventive sort of understanding the child can say "The door opens", without taking a stand on the issue of agency.

Although at this point we will not discuss it, it will be remembered that another context with respect to which these middle verbs function as a homogeneous class is that they embed under periphrastic causatives. This further corroborates our eventive interpretation since, to put it roughly, when the causal history of such events is described, the causality must be represented as being external to the event.

In addition to the data on Adam, we have English data on two girls, three years of age, in make-believe doll play situations. The data come from the second author's dissertation. This data is interesting in virtue of the fact that due to the context of make-believe doll play, other linguistic requirements arise which conflict with the expression of eventivity through the third person present tense inflection. More specifically, in so far as make-believe play consists of creating possible worlds, it requires an extensive use of modal forms. And in fact, our previous analyses show that at least 90% of the verbs in the third person co-occur with modals - thus obliterating the grammatical context for the third person -s inflection. This observation raises an interesting question. Does the absence of the -s inflection indicate an absence of eventive constructions altogether? Or, would other constructions be used which serve to distinguish doings from happenings? We hypothesized that some expression of eventivity would be retained in make-believe doll play, since there is a constant split between the subject who wills the action (the child) and the subject which performs it (the doll). Thus, this split creates the conditions which would make the use of eventive expressions appropriate.

Congruent with the analysis of Adam's speech, we chose to look at the verbs which embed under explicit causative verbs. We found that this class includes 2 sorts of predicates: 1) verbs of motion

such as GO, COME, WALK (eg. "Daddy gonna take you a walk"), and 2) particles such as BACK, OFF, ON and IN (eg. "I put them back to you"). At this point, although we have not fully analyzed the complete use of these particles, it is important to note that the use of the particles supports our general finding. That is, only those intransitive predicates which may occur as full predicates elsewhere, may be embedded under explicit causative verbs to form periphrastic causatives. That these particles are in fact being used independently in noncausative contexts is demonstrated by the following: As A is taking off her doll's dress, she says "Off her dress". The context and intonation suggest that this utterance is a description and not a self-imperative. Or, as A is placing her doll in a toy ambulance, she says "In here", or putting her doll's panties on, "Panties on". Thus, we feel justified in treating these particles as full predicates in their own right. Furthermore, as will be remembered, we noted that Adam also uses particles as predicates which embed under explicit causatives: "I going put the door open (s) and put doors back together".

Thus, although there are no -s inflections in this make-believe play data, we find that, analogous to the data on Adam, a subset of independent predicates occur in explicit causative constructions. Moreover, when these predicates occur on their own, children often use them with other formal means to represent the non-agentive relationship between the subject and the verb. The most striking of these is the use of an objective pronoun in the subject position such as: "Hers gonna go in the water", "Hers gonna go asleep", "Us gonna get a tea party and it's gonna be fun", said by the three year old in the make-believe play situation. Now of course, in order to flesh out the meaning of these observations (for example, the seemingly eventive use of 'get' as a main verb), we need to discuss them in terms of the other distributional facts which obtain for this corpus. However, for purposes of this paper, it is enough to point out the partial overlap with the previous English corpus, in order to raise the more general question about the relationship between eventivity as a semantic notion and the particular genre or discursive context in which it is situated. If it is the case that children find it compelling to have a way to talk about events independently of their own agency, and yet the means they "typically" deploy are not congruent with the requirements of a particular genre - what happens?

Although we do not have a definitive answer to this question, our findings suggest that generic influences may have a shaping role in the articulation of functional categories such as eventivity. The make-believe data begins to document the more particular forms such generic influences may take in child language. Given this fact that across genres, divergent forms may be used to express a similar semantic notion, more attention should be paid to the requirements of particular genres as sources of linguistic change in both childhood and history.

CONCLUSIONS

Hopefully, by now we have been able to demonstrate the relevance of historical linguistics and Indo-European studies for the study of child language. Thus, to conclude we would like to suggest two different ways in which the present child language analysis may be extended such that it may have implications for some problems of Indo-Europeanists:

1). It is well known that besides its eventive function, the historical middle voice was used to express emotions/sensations, reflexivity, reciprocity, etc.. It has been suggested by many scholars that these seemingly diverse functions stem from a single core meaning. If indeed there is such a core meaning for these different functions, one would expect that children using eventive constructions would use (or "over-extend") them to express such things as emotions, reflexivity, and reciprocity as well. Since we can observe the actual speech situations which prompt such over-extensions, we may be able to get a glimpse of the behavioral-situational bases which link the expression of eventivity to the expression of any of these other notions.

2). A second point of potentially fruitful contact between child language and historical linguistics concerns one of the most muddling of all questions - What happened to the historic middle voice? In tracing how children re-interpret their earlier eventive forms so as to approximate adult usage, we may be able to suggest some possible directions in which the historic middle voice may have changed.

NOTES

1. We wish to thank Julian Boyd for drawing our attention to the phenomenon of eventivity. In the writing of this paper, Carol Justus has been immensely helpful both in terms of her generosity with respect to her knowledge of Indo-European and her warm support. We also wish to acknowledge the inspiring influence of Dan Slobin's paper, "The Origins of Grammatical Encoding of Events", 1979.

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