Recursion and its Acquisition: A Case Study

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Tamil[1] is a left branching language with a reasonably strict sequencing of modifier before head and a canonical SOV order. It however does permit scrambling and word order variations including post verbal positioning of complements (unlike other SOV languages). In this exploratory paper, we look at the recursive properties that are observed in the natural speech data of a Tamil child (Vanitha, R. Narasimhan, CHILDES) to document what is visible in early child productions. Specifically, we look at possessives and verb participle structures.

Possessives are marked with a genitive case suffix (-*uDaia*, colloq. -*oDa*) and possessive pronominals include a genitive case suffix together with the nominaliser (*en-uDaia-du*, colloq. *endu* 'mine')[2] (1). The possessive can be dropped in adult speech (2) especially in possessive nominal compounds (3). The verbal sequences can be quite complex and include a main verb in the participle form and auxiliary verbs to indicate aspect, attitude, reflexivity and so on (V_M, V_2, V_3...V_F) with only the final verb in the series bearing the tense and phi-agreement markers. This structure with multiple main verbs is also used as a coordinate structure with a natural reading of sequenced events (E_1 preceding E_2) (4). However, modals, causatives and negatives together with predicates that require an infinitival complement (try, ask, tell etc.) create a V_{Inf}-V_{Fin} embedded structures (5).

In the context of acquisition of recursion in possessives and participles, we ask if (a) the child has acquired the phrase structure rules and are sequencing the possessives and verbs (including serial verbs, finite complementation etc.) as in the target grammars and (b) if there is evidence to show that the event reading can be indirectly, recursively read rather than as simple (direct recursive) conjunctions.

In V's early productions, omission errors of case markers are common, and imperatives (bare stems) are in use with a few participles (and missing auxiliaries). Till the age of 2;1 there are a number of productions of possessives (6) with the overall NP_{poss}-NP frame but without the genitive marker. The genitive marker makes its first appearance in these transcripts at 25 months. This continues till the end of the recordings where we find alternating uses of overt and dropped possessives. The adults' use also shows such variation.

Verbal participles with auxiliary use (especially the perfect aspect marker) is quite common but, more interestingly, the event sequenced participles are also visible early and made especially clear by the nominals of each verb (7). Finiteness is limited to the last verb. Infinitival complements are also attested.

At 2;1 there is an increase in prolificity in the use of possessives and longer constructions which entail more clear uses of participial and clausal complements. At 1;9 this seems not to be the case, order is readily visible but not the pieces themselves (there is no data in the interim).

It would seem that the child displays adequate competence of the phrase structure to signal possession, with participle sequencing appearing even earlier. From our understanding of Tamil acquisition patterns, the competence with indirect recursion appears early in language development and is enabled by the rich and regular morphosyntactic patterns of the language.

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[1] A Dravidian language.

[2] Possession is also indicated via dative case with the verb *irukku* 'to be' or 'to have'.

Data:
(1) <u>Possessives with overt case</u>
    a. uncle ooDa > Uncle-POSS (V: 2;1)
    b. onnooDa innuuru shoe enga irukku?
        you-POSS other shoe where is-3sn
        Where is your other shoe? (FAT)

(2) <u>Possessives without overt case</u>
    a. een maala taa > my(-POSS) necklace give (V: 2;1)
    b. ammaa ofis enga <u>irukkunee</u> onakku teriyaadu (FAT)
        mom (-POSS) office where is that you-DAT know-not-3sn
        You don't know where Mom's office is.
    c. on ofis la rabbit irukkaa? (V:2;6)
        Your(-POSS) office-LOC rabbit be-pres-Q
        Is there a rabbit in your office?

(3) <u>Nominalised possessives</u>
    a. adu ammaadu > that amma-POSS-NOM (V: 2;1) Meaning: *That is amma's*
    b. idu yaarudu? > this who-POSS-NOM (V: 1;9) Meaning: *This is whose?*

(4) E_1 preceding E_2
    a. tuukki enju > carry-VBP(E_1) throw-IMP (E_2) (V: 1;7)
    b. police vandu uvvaa panna pooraan (V: 2;1)
        police come-VBP wound do-INF go-pres-3sm
        Policeman will come (E_1) and will make hurt (E_2)

(5) V_{INF}-V_{Fin}
    a. paper meela kaal vyakkakuuḍaadu (V:1;8)
        paper on foot keep-INF-NEG-IMP
        (One) must not keep the foot on the paper.
    b. naa patTTunu odDakka pooreen (V: 2;1)
        I sound-that break-INF go-pres-1s
        I am going to break it with a phut-sound.
    c. en kuuDa peesaveeNDaam (V: 2;1)
        I with(SOC) speak-INF-want-NEG-3sn
        Don't speak with me.

(6) <u>Increasing degrees of recursion with participle use</u> (V: 2;6)
    *CHI: ciippu taa .
            comb(-ACC) give-IMP
            Give me the comb
    *MOT: nii edDuttuNDu vaa.
            you-NOM (obj drop) get-VBP-have-VBP come-IMP
            You get (it) and come
    *CHI: nii pooy edDuttuNDu vaa .
            You-NOM (obj drop) go-VBP get-VBP-have-VBP come-IMP
            You go and get (it) and come.
    *MOT: enakku kaalla uvvaa.
            I-DAT leg-LOC hurt
            I have a wound in my leg (i.e. I have hurt my leg and can't go)
    *CHI: nii eendu pooy edDuttuNDu vaa.
            You-NOM (obj drop) get up-VBP go-VBP get-VBP-have-VBP come-IMP
            You get up and go and get (it) and come.

(7) <u>Moved nominals</u>
    a. naa vaandi edDuttuTTu <u>ammaa</u> toDaccunaa [*canonical*: amma naa vaandi edDuttuTTu toDaccunaa]
        I-NOM vomit take-VBP-perf-VBP mom-NOM wipe-past-3sf
        I having vomited, Mom wiped (it)
    b. naa anga pooy <u>moTTa</u> acciNDeen [*canonical*: naa motTTa anga pooy acciNDeen]
        I-NOM there go-VBP tonsure beat-VBP-have-1s
        I went there and had myself a tonsure.

Critical References
1. Lehmann, T. 1989. *A Grammar of Modern Tamil*, Pondicherry Institute of Linguistics and Culture, Publication 1.
2. MacWhinney, B. and C. E. Snow. 1985. *The Child Language Data Exchange System*, Journal of Child Language, Vol. 12, pp. 271–296.
3. Narasimhan, R. and R. Vaidyanathan. 1984. *Language Behaviour Interaction between a Child and her Parents: An Extended Corpus*. TIFR, Bombay.