

Early verb development of two Finnish-speaking children: a preliminary approach to miniparadigms

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0. Introduction

This paper is a preliminary overview of the early acquisition of verb inflection in Finnish. The analysis of the first verb forms concentrates on two children, but background material from other children is also used. The analysis of the first miniparadigms concentrates on one girl (Tuulikki).

1. Verb inflection in spoken Finnish

1.1. Verbal categories

The Finnish verb categories which emerge relatively early in the speech of children are:

prod. synthetic

PERSON (+ VOICE)

- ACTIVE (unmarked): 3 persons in singular and in plural (total 6); 3rd SG is the most unmarked
- "PASSIVE" = the indefinite 4th person without person distinctions (the forms of this so-called personal passive are also used in spoken Finnish – and in child language – in the function of the 1st person PL of active)

TENSE

- PRESENT (unmarked)
- PRETERITE (PAST): *i*-suffix in Standard Finnish, e.g. present *nukkuu* vs. preterite *nukkui*, present *antaa* vs. preterite *antoi*; in colloquial speech also shortening and change of the final stem vowel, e.g. present *antaa* vs. preterite *anto*, present *nukkuu* vs. preterite *nukku*; in spoken Finnish the 3rd person SG of contracted verbs *-si* > *-s* (e.g. *haukkasi* > *haukkas*), and the *s* originally belonging to the stem is now a tense marker

MOOD

- indicative (unmarked)
- imperative 2nd person SG and PL + eventually 3rd person
- conditional (*isi*-suffix); potential (*ne*-suffix)

INFINITIVES

- 1st infinitive (*TA*-suffix)
- 3rd infinitive (*mA*-suffix + case endings: illative *-Vn*, inessive *-ssA* etc.)
- eventually 2nd infinitive (*Te*-suffix + case endings, either inessive *-ssA* or instructive *-n*)

PARTICIPLES

- active and passive past participles (obligatory in analytic constructions)
- eventually present participles of some verbs

prod. analytic

NEGATION CONSTRUCTION: Finnish has a negation verb (stem *e-*, in imperative stem *äl-*). This verb is inflected and the main verb is in the negation form (which is identical with

the 2nd person SG imperative, e.g. *minä en nuku* 'I don't sleep', *sinä et nuku* 'you don't sleep', *hän ei nuku* 'he doesn't sleep', *me emme nuku* 'we don't sleep' etc.).

COMPOUND PAST ("perfect tense") = AUX *olla* 'to be' + the past participle of the main verb.

At first, children may use only some part of these constructions (e.g. Tuomas, Table A; 4a+b, 18c).

All these verb categories are productive. The morphologically most simple forms, indicative present SG 3 and imperative SG 2, can be regarded as the basic forms of the verb (cf. Toivainen 1980: 44).

1.2. Verb classes which Finnish-speaking children use relatively early

1.2.1. verbs with only vowel stem that ends in a **short vowel** (e.g. *istu-a* 'to sit', *sano-a* 'to say'; the A is the suffix of the infinitive); this is the most common and productive type of Finnish verbs

1.2.2. verbs with only vowel stem + the vowel stem ends in **two vowels**

a) one-syllabic verbs, e.g. *syö-* 'eat', *juo-* 'drink', *vie-* 'take away' (the past tense is in this verb class exceptional, e.g. *syön* 'I eat': *söin* 'I ate', and analogical formations are common in child language, e.g. *syöin* = simply *syö+i+n*); this class is unproductive

b) longer ones (the type *mestaro-i-*) are acquired later; this class is weakly productive

1.2.3. contracted verbs: the vowel stem ends in two vowels, and there is also a consonant stem (e.g. *kiipeää* ~ *kiipee* : *kiivet+kää* 'climb'); analogical forms are typical for early child language, e.g. *kiipeää* ~ *kiipee* : *kiipi* instead of *kiipesi* (ex analogia *lukee* : *luki* or *hakee* : *haki* in the 1. type of verbs); this verb class is productive

1.2.4. other verbs with both a vowel and a consonant stem: the vowel stem ends in a short *e* (e.g. *tule-* 'come' : *tul+kaa*, *mene-* 'go' : *men+kää*)

1.3. Examples of the paradigms

Present indicative forms of verbs belonging to the 1. class in 1.2 above

	SG	PL
1. person	<i>istu-n</i>	<i>istu-mme</i> ~ <i>istutaan</i> (the latter one, "passive", is used in spoken Finnish)
2. person	<i>istu-t</i>	<i>istu-tte</i>
3. person	<i>istu-u</i>	<i>istu-vat</i>

Past tense (preterite) stem: *istui-* (*istuin*, *istuit*, *istui* etc. but in colloquial speech SG3 is *istui*)

Present indicative forms of verbs belonging to the 2. class:

	SG	PL
1. person	<i>vie-n</i>	<i>vie-mme</i> ~ <i>viedään</i> (the latter one is the so-called "passive")
2. person	<i>vie-t</i>	<i>vie-tte</i>
3. person	<i>vie</i>	<i>vie-vät</i>

Past tense (preterite) stem: *vei-* (*vein*, *veit*, *vei* etc.); infinitive: *viedä*

Present indicative forms of verbs belonging to the 3. class:

	SG	PL
1. person	<i>hyppää-n</i>	<i>hyppää-mme</i> ~ <i>hypätään</i> ("passive")
2. person	<i>hyppää-t</i>	<i>hyppää-tte</i>
3. person	<i>hyppää</i>	<i>hyppää-vät</i>

Past tense (preterite) stem: *hyppäsi-* (*hyppäsin*, *hyppäsit*, *hyppäsi* etc.); infinitive: *hyppätä*

Present indicative forms of verbs belonging to the 4. class:

SG PL

1. person tule-ntule-mme ~ tullaan (this "passive" is based on the consonant stem)

2. person tule-t tule-tte

3. person tule-etule-vat

Past tense (preterite) stem: tuli- (tulin, tulit, tuli etc.); infinitive: *tulla* (consonant stem)

2. Data description

The study is mainly based on the corpora of two children, Tuulikki and Tuomas.

Tuulikki, girl, was born 28. 6. 1991; there is available diary data from the onset of speech and recordings from the age of 1;7 onwards. Until now, transcribed recordings are

1;7 (60 + 30 min, transcribed to a large extent) 199 utterances (child speech)

1;8 (90 min, only partly transcribed) 225 utterances (child speech)

1;9 (30 min, only partly transcribed) 172 utterances (child speech)

1;10 (30 min, only partly transcribed) 68 utterances (child speech)

1;11 (60 min, transcription in progress) (mostly diary data used)

2;1 (60 min, transcribed to a large extent) 136 utterances (child speech)

The transcription process is continued during the winter 2000-2001 and will concentrate on the partly transcribed recordings in order to make them fully available in spring 2001.

Tuomas, boy, born 25. 5. 1997; there is diary data from the onset of speech and recordings from the age of 0;9. Until now, partly transcribed recordings are 1;6 (30 min) and 1;7 (30 min).

3. Predecessors of verbs in predicative function

Elements expressing actions, events and processes before adult-like verbs:

a) no replacement of verbs by fillers

b) no prefixes but e.g. *pois* 'away' (also in truncated form: *po* etc.) from the expression *mene ~ mennä(än) pois* 'go away' is used much in the same way as the English verb particle *away* (cf. partially the German prefix *weg*)

Presumably, *pois* is favoured by small children because it is short and has only one form, whereas the verb is more demanding: it is inflected in different forms and it is longer.

c) objects, especially **mass nouns in partitive** instead of their governing verbs: *vettä ~ tettä* 'water' in the meaning 'give me some water [to drink]', *pullaa ~ puuroa ~ puuvoo* etc. in the meaning 'give me some buns/porridge [to eat]';

Also **some illative forms**: *kotiin* '[let's go] home' and *syliin* '[I want to come] into the lap' (morphologically *kotiin* = *koti* 'home' + the illative suffix *-in*, and *syliin* = *syli* + the illat. suffix *-in*); cf. to the early illative forms of the 3rd infinitive (e.g. *syömään* 'come to eat', consisting of the verb stem *syö-*, the suffix of the 3rd infinitive *-mA-* and the illative suffix *-än*).

d) early reduplicative expressions, attested from many Finnish children: *anna-anna-anna-anna* ~ *mam-mam-mam-mam* ~ *nam-nam-nam-nam* 'give (something to eat/drink, used often in combination with a pointing gesture)'; more idiosyncratic: Tuulikki's *ihhaa ihhaa* (< shortened from the nursery rhyme "ihhahhaa, ihhahhaa, hepo hirnhaataa", used when riding

with a toy horse or – by the child – even when seeing a picture of a horse). The form *anna* is the 2nd person imperative of the verb *antaa* 'to give', the other reduplicative expressions are built on onomatopoeics; both *nam* 'yum yum' and *ihahaa* (imitating the voice of the horse) can occur also alone, but *mam* is not an established interjection in (adult) Finnish.

e) onomatopoeic forms, both reduplicative (cf. point d above) and others, e.g. *miau* imitating the sound of the cat, *surrur* and *prrr* imitating the sounds of different machines; these onomatopoeic words are iconic in the sense that they refer directly to their referents and simultaneously indexical in the sense that they refer specifically to the sound produced by their referents

4 The first verbs and their forms of two Finnish children

(Tuulikki, girl, and Tuomas, boy; the first 50+ verbs (diary data and recordings))

Also diary data is included because the very first verb forms have not been recorded. Already in the first recordings of Tuulikki (1;7) there are many verb forms; from the recordings of Tuomas, only 1;6 and 1;7 are (partly) transcribed. The first forms to emerge are imperative singular 2nd and indicative singular 3rd. Some other form categories emerge rather early (passive, infinitives, negation verb, participles) but the 3rd form to be used productively is the preterite (past tense) 3rd person. In certain forms, the colloquial (shorter) variant is used instead of the standard variant (e.g. 20 *tippu*, 48 *kuulu*; cf. 1.a: PAST TENSE). Certain forms are shortened because of the strong trochaic tendency in Tuulikki's speech, e.g. 8 *kävele-* > *käme*.

TABLE A1: The first 50+ verbs of Tuulikki (F = a formulaic, frozen word-form)
[lemma = (strong) vowel stem]

AGE	NUMBER	LEMMA	ENGLISH	first occurrence	CATEGORY
0;10	1	katso-	look	kato [ato]	imperat SG2
1;3	2	avaa-	open	avaa	imperat SG2
1;4	3	anta-	give	anna	imperat SG2
	4	hyppi-	jump	hyppii	indicat SG3
	5	vetä-	push	vetää	indicat SG3
	6	menc-	go	mennään	passive present
1;5	7	istu-	sit	istuu [ittuu]	indicat SG 3
	8	kävele-	walk	kävelee [käme]	indicat SG 3
	9	nukku-	sleep	nukkuu	indicat SG 3
	10	pane-	put	pane [mane]	imperat SG2
	11	otta-	take	ota	imperat SG2
	11b	otta-	take	ottaa	indicat SG3
	13	pakkaa-	pack	pakkaa	indicat SG3 ('is packing')
	14	pese-	wash	pese	imperat SG2
	15	piirtää	draw	piirtää [piittää]	indicat SG3
	16	pitä-	'must' (modal)	pitää	indicat SG3
	17	potki-	kick	potkii [pokkii]	indicat SG3
	18	pumpe	(playful gymnastics)		(no suffix elements)
		(< motherese <i>pumperoi</i> ; the form is shortened to the bare stem)			
	19	tanssi-	dance	tanssii [ta(a)ssii]	indicat SG3
	20	tippu-	fall	tippui [tippu]	past indicat SG3
1;6	F1	kiittä-	thanks	kiitti	a frozen past indicat SG3
	F2	boppu(u)	'the end ~ ended ~ ends'		indicat SG3

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		'loppu (= valmis 'ready') ~ loppuu'		[unclear: past ~ present?]
21		kuule-	hear kuulen	indicat SG1
22		hörppää-	slurp hörppää [höppää]	indicat SG3
23		kaata-	pour kaataa [kaataa isi kuppi]	indicat SG3
24		pelaa	play pelaa	imperat SG2
F5		syömään	eat syömään	3 rd infin. illative form
25		yski-	cough yskii [ykkii]	indicat SG3
26		kaatu-	fall kaatuu	indicat SG3
27		ole-	be on	indicat SG3
28		valu-	flow valuu	indicat SG3
		(juice along the arm)		
29		pyöri-	go round pyörii [pyölii]	indicat SG3
30		hali-	embrace halii [alii]	indicat SG3
31		kasta-	dunk kasta [katta]	imperat SG2
31b		kasta-	dunk kastaa [kattaa]	indicat SG3
		(bisquits in tea; no clear opposition: the child is speaking of her own actions)		
32		nuuhki-	sniff nuuhkii [nuukkii]	indicat SG3
33		yltä-	reach ylittää	indicat SG3
34		halu-	want haluu	indicat SG3
35		leikki-	play leikkii	indicat SG3
36		maista-	taste maistaa	indicat SG3
37		sopi-	fit sopii [topii]	indicat SG3
		(the piece of a jig-saw puzzle)		
38		nojaa-	lean nojaa	indicat SG3
		(backwards in the chair)		
39		puke-	dress pukee	indicat SG3
1;7 40		ole	to be; copula ei ole [ei oo]	NEG SG3
		(a colloquial contracted form)		
41		kuivu-	dry kuivuu	indicat SG3
42		nosta-	lift nosta [notta]	imperat SG2
42b		nosta-	lift nostaa [nottaa]	indicat SG3
43		hake-	fetch hakee	indicat SG3
44		työntä-	push työntää [tyntää]	indicat SG3
45		lentä-	fly lentää	indicat SG3
46		peittä-	cover peittää	indicat SG3
46b		peittä-	cover peitti	past SG3
47		puske-	puskee [pukkee]	indicat SG3
47b		puske-	butt puski [pukki]	past SG3
48		kuulu-	is heard kuului [kuulu]	past SG3
49		jaka-	divide jakaa [kakaa]	indicat SG3
50		pyyhki-	wipe pyyhi	imperat SG2
51		luke-	read lukee	indicat SG3
52		puuttu-	lack puuttuu	indicat SG3
53		mittaa-	measure mittaa	indicat SG3
54		paina-	press painaa	indicat SG3
55		seiso-	stand seisoo [teisoo]	indicat SG3
56		tule-	come tulee	indicat SG3

TABLE A2: The first 50+ verbs of Tuomas
[lemma = (strong) vowel stem]

AGE	NUMBER	LEMMA	ENGLISH	first occurrence	CATEGORY
0;8	1	anta-	give	anna!	imperat SG2
0;9	2	pelaa-	play	pelaa [peeaa]	imperat SG2 vs. indicat SG3
	3	avaa	open	avaa	imperat SG2 vs. indicat SG3
		[0;9 ava(a), 1;3 auva, 1;4 avaa/ävää]			

1;0	4	e-	negation	en [em]	NEG verb indic. SG1
1;3	5	kiikku-	swing	kiikkuu	indicat SG3
	6	nukku-	sleep	nukkuu [gukkuu, kukkuu]	indicat SG3
1;4	7	kaatu-/kaata-	fall	kaa	indicat SG3
	8	keikku-	swing	keekkuu	indicat SG3
	9	luke	read	lukee [ukee]	indicat SG3
	4b	ei/e-	negation	ei ('empty')	NEG verb indic. SG3
	10	tippu-	fall	tippu(i)	past SG3
			[1;4 pippu; 1;6 pippu/tippu, 1;7 tippu]		
	F1	loppu-	end	loppu [1;6 poppu]	past SG3
1;5	11	autta-	help	auta	imperat SG2
	12	tule-	come	tule [tu]	imperat SG2
1;6	13	keikka-	swing, fall	keikkaa [keekkaa]	indicat SG3
	14	kiipeä-	climb	kiipee [kippii]	indicat SG3
	15	piirtä-	draw	piirtää [piittää]	indicat SG3
	10b	tippu-	fall	tippuu [pippuu]	indicat SG3
	16	pyyhki-	wipe	pyyhkii [pyyhii, pyhhii]	indicat SG3
	17	työntä-	push	työntää [tyttää]	indicat SG3
1;6	18	pese-	wash	pestään [pettää]	passive
1;7	19	istu-	sit	istuu [ittu]	imperat SG2
	20	katso-	look	kato	imperat SG2
	18b	pese-	wash	pestä [pettä]	1 st infinitive
	18c	pese-	wash	pesty [petty]	pass II partis
	21	hake-	fetch	hakee [akee]	indicat SG3
	10	autta-	help	auttaa [attaa]	indicat SG3
	22	heittä-	throw	heittää [eittää]	indicat SG3
	23	hyppä-	jump	hyppää [yppää]	indicat SG3
	19	istu-	sit	istuu [ittuu]	indicat SG3
	7	kaata-	tilt over	kaataa	indicat SG3
	24a	kaatu-	fall	kaatuu [kaatuu, kattuu]	indicat SG3
	24b	kaatu-	fall	kaatui [kaatu, kattui]	past SG3
	25	kampaa-	comb	kampaa [kaapaa]	indicat SG3
	26	karkaa-	run away	karkaa [kaakaa]	indicat SG3
	20	katso-	look	katsoo [kattoo]	indicat SG3
	27	kävele-	walk	kävelee [käjee, kävee]	indicat SG3
	28	laske-	go down	laskee [lakkee]	indicat SG3
	29	lensä-	fly	lensä [nensä]	indicat SG3
	30	lähte-	go away	lähtee [lättee]	indicat SG3
	31	mahtu-	go in	mahtuu [mattuu]	indicat SG3
	32	mene-	go	menec	indicat SG3
	33	odotta-	wait	odottaa [oottaa]	indicat SG3
	34	paukku-	slam	paukkuu [pakkuu]	indicat SG3
	35	pitä-	keep	pitää	indicat SG3
	36	rikkoo-	break	rikkoo [ikkoo]	indicat SG3
	37	tiskaa-	wash up the dishes	tiskaa [tikkaa, tihkaa]	indicat SG3
1;8	20b	katso-	look	katsomaan [kattomaa]	3 rd infinit. ILL
	6b	nukku-	sleep	nukkumaan [ukkumaa]	3 rd infinit. ILL
	32b	mene-	go	mennään	passive
	18a	pese	wash	pestään [pehtää]	passive
	19b	istu-	sit	istuttiin	passive past
	20b	katso-	watch	katsottiin [katotti]	passive past
	38	haista-	smell	haistaa [aittaa]	indicat SG3
	39	haukku-	bark	haukkuu	indicat SG3
	40	huuta-	shout	huutaa [uutaa]	indicat SG3
	41	juokse-	run	juoksee [uokkee]	indicat SG3
	42	jäähty-	get cool(er)	jäähtyy [ähtyy]	indicat SG3
	43	kaiva-	dig	kaivaa	indicat SG3
	44	puha(lta)-	blow	puhalla [puha]	imperat SG2
	45	kurkista-	peep, peek	kurkistaa [kukistaa]	indicat SG3
	46	kutitta-	tickle	kutittaa	indicat SG3
	47	kylpe-	have a bath	kylpec [ky(y)pee]	indicat SG3

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48	käänty-	turn (refl.)	kääntyy [käätyy]	indicat SG3
49	kääntä-	turn (trans.)	kääntää [käättää]	indicat SG3
50	leikka-	cut	leikkaa [eikkaa]	indicat SG3
51	naura-	laugh	nauraa	indicat SG3
52	paina-	press	painaa	indicat SG3
53	pomppaa-	be bouncing	pomppaa	indicat SG3
54	potkaise-	kick	potkaisee [pokkaa]	indicat SG3
55	aja-	drive	ajoi [aji]	past SG3
10b	autta-	help	auttoi [autti]	past SG3
22b	heittä-	throw	heitti	past SG3
30b	lähte-	go away	lähti [dhti]	past SG3
32b	mene-	go	meni	past SG3
7b	kaatu-	fall	kaatui [kaatu]	past SG3
48b	käänty-	turn (refl.)	kääntyi [käänty]	past SG3
23b	hyppää-	jump	hyppäsi [hyppäs]	past SG3
56	irtoa-	come loose	irtosi [ittos]	past SG3
57	törmää-	bump	törmäsi [töömäsi]	past SG3

5. Emergence of verb categories and the relations between verb forms

5.1. Two basic verb forms

The imperative SG2 and the indicative SG3 forms are the first forms of verbs used by Finnish-speaking children. They can be regarded as basic forms of the verbs because they are morphologically basic (short and simple) and are used as building stones for more complicated forms to be acquired later. They are also basic from the categorial view: the 3rd person sg. indicative is semantically the most neutral verb form and it has high frequency; the 2nd person imperative can be regarded as a pragmatically basic verb form. These two forms are used accurately from the very beginning: the imperatives in requests and the indicatives in declarative sentences when speaking about ongoing action. At first, these two forms are typically not used from the same verb.

The imperative SG2 is formed by adding a final segment (realized phonetically as e.g. a glottal stop) to the vowel stem of the verb (if a consonant follows, this final segment is usually realized as a gemination of the consonant), but small children usually omit this final segment, e.g. istu, sano; syö, juo; kiipeä; tule, mene (cf. the verb groups in 1.2). The indicative SG3 is formed by lengthening the short stem-final vowel (the long final vowel remains unchanged), e.g. istuu, sanoo; syö, juo; kiipeää; tulee, menee.

The Finnish infinitives are used only later; they are morphologically more complex, formed by adding the suffix -TA (1st infinitive), -TE (2nd infinitive) or -MA (3rd infinitive).

5.2. Other verb forms

The third verb form to be used by many Finnish-speaking children is the 3rd person preterite (past tense). The very first preterite forms can be such as *tippu* 'fell' (when e.g. food or toys have fallen on the floor) or *loppu* 'end(ed)' (typically when the food has all been eaten up). Soon, different preterite forms are used accurately when speaking about actions and events that happened before the present time. There is a clear contrast between present and past, in some instances even in successive utterances, e.g. Tuulikki 1;8 *äiti hakee* 'the mother is fetching (a book) vs. *äiti haki* 'the mother fetched' (when the mother had brought the book).

Also the negation construction emerges rather early, but it is first used mostly in truncated form (only the negation verb).

The early occurrences of other verb forms are mostly isolated and rare but used in a correct way, for example Tuulikki 1;4 the passive present form *mennään* 'let's go', 1;6 the 3rd infinitive illative *syömään* 'come to eat'; Tuomas 1;6 the passive present form *pestään* 'let's wash', 1;7 the 1st infinitive *pestä* 'to wash' and the passive past participle *pesty* 'has been washed'.

5.3. Order of emergence of the inflectional categories

Both Tuulikki and Tuomas had the same order of emergence

a) between different categories

person + mood (= imperat. SG2 + indicat. SG3) > tense > voice/number (although some passive forms were used early in the function of PL1 as is usual in colloquial Finnish)

b) subcategories within categories

person (indicative): SG3 (but in imperative SG2 first) > SG1 > SG2 > PL2/3 (PL1 = passive!)

person (imperative): SG2 > (passive in the function of PL1) > PL2 > 3rd

person (indicative + imperative): SG2+3 > (passive in the function of PL1) > SG1 > SG2 > PL2 > PL3 (usually replaced by SG3 in spoken Finnish)

tense: present > preterite

voice: active > passive

Cf. the acquisition order of the verb suffixes of 25 Finnish-speaking children (based on the order of the median child, Toivainen 1980): basic forms > past tense > negation (analytic) > SG1 > passive > perfect > 3rd infinitive illative > 1st infinitive > past negation (analytic) > SG2 indicative > conditional > 2nd infinitive inessive.

6. Emergence of miniparadigms

The miniparadigms are established following the criteria of Kilani-Schoch and Dressler (2000): spontaneous production, articulatory accuracy in the suffix elements, contrasting contexts, recurrence. Only one imitated form is taken into consideration: the truncated passive *laite* (< laitetaan 'let us put') in the recording 1;7:28 of Tuulikki.

6.1. The first contrasting verb-forms of Tuulikki

The first oppositions of verb forms to emerge in Tuulikki's speech were oppositions of the two basic verb forms, the imperative SG2 and the indicative SG3:

Tuulikki	1;5 ota 'take!'	: ottaa 'takes' (diary data)
	1;7 nosta 'lift!'	: nostaa 'lifts' (diary data)
	1;7 katso [kato] 'look!'	: katsoo [kattoo] 'is looking'
	1;8 katso [kato] 'look!'	: katsoo [kattoo] 'is looking'
	1;8 ota 'take!'	: ottaa 'takes'
	1;8 tule ~ tuu 'come!'	: tulee 'is coming' (diary data)

In the contracted verbs (e.g. Tuulikki 1;3 *avaa*, 1;5 *pakkaa*, 1;6 *hörppää*, *pelaa*, *nojaa*) there is no morphological difference between the two basic forms before the children start to use the final segment (gemination ~ glottal stop) of the imperative (then: indicative -VV vs. imperative -VV'); the inflectional category of the occurrences can yet be inferred from the context.

*Early verb development of two Finnish-speaking children:
a preliminary approach to miniparadigms*

Soon the following oppositions of verb forms emerged, namely those consisting of indicative SG3 present and preterite:

Tuulikki	(1;6 [unclear:] loppu ['ready; end(ed)] : loppu(u) [length of the vowel unclear])	
	1;7 heittää : heitti 'throws : threw' (record.)	
	1;7 kaatuu : kaatu	'is falling : fell' (record.)
	1;7 nukkuu : nukku	'is sleeping : slept' (record.)
	1;7 on : oli	'is : was' (diary data)
	1;7 peittää : peitti	'covers : covered' (diary data)
	1;7 puskee : puski	'butts : butted' (diary data)
	1;7 vie : vei	'takes away : took away' (diary data)
	1;8 antaa : anto	'gives : gave' (diary data)
	1;8 hakee : haki	'fetches : fetched' (diary data)
	1;8 keittää : keitti	'is cooking : cooked' (diary data)
	1;8 kerää : *keri (= keräsi)	'is collecting : collected' (diary data)
	1;8 laittaa : laitto	'puts : put' (diary data)
	1;8 loppuu : loppu	'ends : ended' (diary data)
	1;8 lähtee : lähti	'goes away : went away' (diary data)
	1;8 menee : meni'	'goes : went' (diary data)
	1;8 nukkuu : nukku	'is sleeping : slept' (diary data)
	1;8 on : oli	'is : was' (diary data)
	1;8 ottaa : otti	'takes : took' (diary data)
	1;8 pitää : piti	'holds : holded' (diary data)
	1;8 putoo : puto ~ putos	'is falling : fell' (diary data)
	1;8 saa : sai	'gets : got' (diary data)
	1;8 sanoo : sano	'says : said' (diary data)
	1;8 syö : söi ~ *syöi	'is eating : ate' (diary data)
	1;8 syöttää : syötti	'feeds : feeded' (diary data)
	1;8 tulee : tuli	'is coming : came' (diary data)
	1;8 vaihtaa : vaihto	'changes : changed' (diary data) [-ht- > -tt-]
	1;8 vetää : veti	'pulls : pulled' (diary data)
	1;8 vie : *viei (= vei)	'takes away : took away' (diary data)

There were also some early occurrences of negation form, 1st person singular form and the illative of the 3rd infinitive. The same verb was always used also in the indicative SG3 form.

The first negation forms were used by Tuulikki in the verb meaning 'to be, to exist' (infinitive *olla*) at the age of 1;7: *on* 'is' : *ei oo* 'is not' (colloquial variant of the negation, Standard Finnish *ei ole*), diary notes also from the age of 1;8. Together with the preterite these two forms established a three-member suppletive paradigm *on* 'is' : *oli* 'was' : *ei oo* 'is not'. At the age of 1;8 negation occurred at least in the following oppositions: *autti* 'helped' (a form based on analogy, regular form *auttoi* 'helped') vs. *ei isi auta* 'the father shall not help' (negation used in a modal context) and *putoo* 'is falling' : *ei pulo* 'does/did not fall' (truncated form of the main verb).

At the age of 1;8 Tuulikki used two variants of her playful ultimatum: *muuten suutun ~ muuten suuttuu* 'otherwise I will get angry ~ otherwise gets angry'. This seems to be a first candidate to the opposition of SG1 and SG3 indicative.

The verb *nukkua* 'to sleep' was used by Tuulikki frequently in the 3rd person indicative form. At the age of 1;8 she also tried to use the illative of the 3rd infinitive (*nukku+ma+an*), but because of the trochaic tendency she shortened the form: *ei vielä nukku* 'not yet sleep-', *ihan vielä nukku* 'quite yet sleep-' and *pankkii nukkuu* 'on the balcony to sleep' (the last form seems to represent the colloquial variant of the illative of the 3rd infinitive, *nukku+un*, where the *ma-*

suffix of the 3rd infinitive is dropped). At this age Tuulikki also used the colloquial preterite *nukku* but in the diary data there is unfortunately only one occurrence of this form.

6.2. The first true miniparadigms of Tuulikki (with at least three members)

At the age of 1;7 Tuulikki started to use three-member miniparadigms. One of them was suppletive: Tuulikki used from the verb *olla* 'to be, to exist' the 3rd person indicative *on* 'is', the colloquial variant of the negation form *ei oo* 'is not' and the preterite *oli* 'was'.

Another candidate for a three-member miniparadigm at the age of 1;7 was the verb *laittaa* 'to put'. From this verb, Tuulikki used the 3rd person indicative *laittaa* 'puts', the analogical preterite *laitti* [= *laittoi*] 'put' and (in an answer to a question, recorded session 1;7:28) the shortened passive form *laite* [= *laitetaan*] 'let's put'; here the passive suffix itself is dropped but the passive is nevertheless signalled by the change of the final stem vowel from *a* to *e* (*laita-* > *laite*). The trochaic phase of Tuulikki explains why the trisyllabic *laitetaan* 'let's put' was shortened; yet, *laite* was used as an adequate answer to the question "laitetaanko ...?" (= shall we put...?).

The first three-member miniparadigms thus emerged soon after Tuulikki had more than 50 verb forms.

At the age of 1;8 Tuulikki had several three-member miniparadigms. One type of the miniparadigms consisted from the three early verb forms: imperative SG2, present indicative SG3 and preterite SG3. These forms were frequently used from the following verbs: *anna* 'give' : *antaa* 'is giving' : *anto(i)* 'gave' and *tule ~ tu(u)* 'come!' : *tulee* 'is coming' : *tuli* 'came'.

These two paradigms are rather transparent, although in the first one there are certain stem alternations: grade alternation (nt : nn) and the alternation *a ~ o* in the final stem vowel. From the second verb, also the passive preterite was used: *tultiin* 'we came'. The passive is based on the consonant stem, which makes it less transparent.

Another type of miniparadigms consisted of active SG3 (present and preterite, both frequently registered) and passive in the function of PL1 (the passive present *mennään* was attested already at the age of 1;4, now also passive preterite and negation): *menee* 'goes' : *meni* 'went' : *mennään* 'let's go' : *mentiin* 'we went' : *ei mennä* 'we shall not go'. Tuulikki used also the SG2 imperative from this verb, but there is only one occurrence in the diary data. The paradigm is rather transparent, although the passive forms are based on the consonant stem.

A third type was the suppletive paradigm of the verb *olla* 'to be, to exist': Tuulikki used the 3rd person indicative *on* 'is', the colloquial variant of the negation form *ei oo* 'is not' and the preterite *oli* 'was'. The corresponding forms were also used from the verb *ottaa* 'to take', but the negation form *ei ota* 'does not take' was used only during the last day of the age month 1;8 and only in the context of eating. These forms (SG3 present and preterite + negation) were furthermore used from the verb *saada* 'to get; may', but the negation form belonged to the modal use of this verb (*ei saa* 'must not') and the two other forms to the meaning 'to get' (SG3 present *saa* 'gets' and preterite *sai* 'got'). One further candidate to this group of miniparadigms is *pudota* 'to fall' with the forms *putoo* 'is falling', *ei pulo* 'does/did not fall' : *puto(s)* 'fell', but the forms of this contracted verb were both truncated and influenced by analogy (cf. 7.1). These are perhaps not true miniparadigms but nevertheless they show that the SG3 negation form is getting productive.

Within the first miniparadigms, one special case was the verb *syödä* 'to eat'. At the age of 1;8 Tuulikki used very many forms of the verb *syödä* 'to eat', at least the following nine: *syö* (present indicative SG3) 'is eating', *syö!* (imperative SG2), *söi ~ syöi* (preterite, both regular and analogical) 'ate', *syömään* (illative of the 3rd infinitive) 'go eating', *syödään* (the present

tense of the so-called "passive") 'let's eat', *syötiin* (preterite of passive) 'was eaten', *syönyt* (past participle of active, e.g. *syönyp paljon* 'has eaten much') 'has eaten', *syöty* (past participle of passive, e.g. *syöty kaikki* 'all has been eaten up') 'has been eaten', *syödä* [*tyälä*] (1st infinitive, e.g. *tyälä puuvoo* 'to eat porridge'). Some of these nine forms have been registered only once or twice, but the following ones were used frequently and were registered at least three times: *syö*, *söi* ~ *syöi* (both variants), and *syödään* (passive in the function of PL1).

In sum: at the age of 1;8 Tuulikki had at least the following true miniparadigms:

1. *anna* 'give' : *antaa* 'is giving' : *anto(i)* 'gave'
2. *tule* ~ *tu(u)* 'come!' : *tulee* 'is coming' : *tuli* 'came'
3. *menee* 'goes' : *meni* 'went' : *mennään* 'let's go' : *mentiin* 'we went' : *ei mennä* 'we shall not go'
4. *on* 'is' : *ei oo* 'is not' (colloquial) : *oli* 'was'
5. *syö* 'is eating' : *söi* ~ *syöi* (both variants) 'ate' : *syödään* (passive in the function of PL1)

Further candidates for three-member miniparadigms at the age of 1;8 are *saada* (both modal use and the meaning 'to get') and *pudota* 'to fall'.

The recordings 1;9 and 1;10 are only partly transcribed; both of the short transcripts include a few three-member miniparadigms, e.g. 1;9:16 *on* 'is' : *oli* 'was' : *ollaan* 'we are' (passive in the function of PL1), 1;10:11 *tulee* 'comes' : *tule!* 'come!' : *tullaan* 'we are coming' (= passive in the function of PL1), *syö* 'is eating' : *syömään* 'come to eat' : *syödään* 'let's eat' (= passive in the function of PL1). The recording 1;11 is the next one to be transcribed; unfortunately, there is no recording from the age of 2;0. In the transcript 2;1 there are several miniparadigms of even 4 and more members: *halua*³, *nukku*³, *syö*³, *mene*⁴, *pane*⁴, *saa*⁴, *luke*⁵, *ole*⁷.

The number of the first true miniparadigms (with at least three members) in Tuulikki's corpus were:

- 1;7 1 + 1 (cf. 6.2.)
1;8 4 + 2 (cf. 6.2.)

6.3. The first contrasting verb-forms of Tuomas

The first verb of Tuomas occurring both in the present tense and in the preterite was 1;4 (and onwards) *tippu* 'fell down' vs. 1;6 *tippuu* 'is falling down' (when porridge was continuously falling from the spoon on the tablecloth). Interestingly enough, the past tense form of this verb emerged first. In other verbs the present tense emerged first:

- 1;7 *kaatuu* 'is falling' : *kaatu* 'fell' and
1;8 *auttaa* 'helps' : *autti* 'helped'

Another early contrast was the opposition of imperative SG2 and indicative SG3, e.g. 1;7 *kato(kursiviert)* 'look!' vs. *kattoo(kursiviert)* 'is looking'.

On the basis of diary data, the first miniparadigm of Tuomas was 1;7 *kato(kursiv.)* 'look!' : *kattoo(kurs.)* 'is looking' : *katottiin(kurs.)* 'was looked' (passive preterite) : *kattomaan(kurs.)* 'to look' (illative of the 3rd infinitive). Another candidate for an early three-member miniparadigm consisted of exceptional forms: 1;7 *pestään* 'let's wash' : *pestä* 'to wash' : *pesty* 'has been washed'. Yet these forms were rote-learned and used only in connection with the washing routines. Moreover, the passive past participle *pesty* was the only representant of this inflectional category and should thus not be counted as such an inflectional form that could be a member of a paradigm in this phase.

6.4. Miniparadigms and the emergence of categories

In the first true miniparadigms of Tuulikki the form categories that occurred were the same that also in general emerged early: imperative SG2, indicative SG3 present and preterite, passive and the SG3 negation form. The most important morphological contrasts in the first true miniparadigms were the following ones:

imperat. SG2 vs. indicat. SG3, e.g.	<i>anna : antaa</i> ('give' : 'gives')
	<i>tule : tulee</i> ('come' : 'comes')
indicat. SG3 present vs. preterite, e.g.	<i>on : oli</i> ('is' : 'was')
	<i>antaa : anto(i)</i> ('gives' : 'gave')
	<i>tulee : tuli</i> ('comes' : 'came')
	<i>menee : meni</i> ('goes' : 'went')
active SG3 vs. passive (in the function of PL1), e.g.	<i>menee : mennään</i> ('goes' : 'let's go')
	<i>syö : syödään</i> ('eats' : 'we are eating')
	<i>on : ollaan</i> ('is' : 'we are')
indicat. SG3 affirmative vs. negative, e.g.	<i>on : ei ole ~ ei oo</i> ('is' : 'is not')

The above analysis of the first miniparadigms of Tuulikki is based both on recordings and diary data. There is not as much diary data from the speech of Tuomas, and from his recordings only 1;6 and 1;7 have been transcribed, so thus far only the first contrasts can be presented:

imperat. SG2 vs. indicat. SG3, e.g.	<i>kato : kattoo</i> ('look!' : 'is looking at')
indicat. SG3 present vs. preterite, e.g.	<i>tippuu : tippu(i)</i> ('is falling down' : 'fell down')
active SG3 vs. passive (in the function of PL1), e.g.	<i>menee : mennään</i> ('goes' : 'let's go')
finite verb forms vs. 3rd infinitive illative, e.g.	<i>nukkuu : nukkumaan</i> ('is sleeping' : 'to sleep')

7. Analogical formations

7.1. The formation of the preterite (past tense)

There is only one past tense (preterite) suffix in Finnish, namely *i*. Yet there are three productive preterite types in Standard Finnish: those ending in *-i*, *-si* and *-oi*. In colloquial Finnish there is a fourth type: the labial final vowel of the SG3 present is shortened in preterite, e.g. *loppuu* 'ends' : *loppu* 'ended', *sanoo* 'says' : *sano* 'said'. The *si*-preterite is typical for contracted verbs (cf. 1.2.3).

The first types to emerge in child language are besides the colloquial one especially the *i*-type and the *si*-type. These two productive types also often expand beyond the limits of their normal use. The child usually starts from either the *i*- or the *si*-preterites but later, when the child acquires other preterite types, also they may expand beyond their normal use; this holds in some degree also to the *oi*-type.

As many other Finnish-speaking children, Tuulikki started from colloquial vowel shortening (*tippu* 'fell' vs. *tippuu* 'is falling') and the *i*-type; she used analogical variants with the latter one from the age of 1;8 on especially in contracted verbs and one-syllabic verbs:

1;5	<i>tippu</i>
1;6	<i>poppu</i> 'loppu' (BUT: this type cannot expand beyond the verb group ending in labial vowel)
1;7	<i>peitti</i> , <i>puski</i> , <i>heitti</i>

1;7 söi, vei

1;7(end) SELF-CORRECTION: *lumta sati / sato*

1;8 ANALOGICAL FORMS: *kerää : keri* (pro *keräsi* 'collected'; the anal. model is constituted by such verbs as *heittää : heitti, syöttää : syötti, pitää : piti* etc. – cf. 6.1), *putoo : puto : ei pulo* (pro *putoo ~ putoaa* 'is falling', *putosi* 'fell', *ei putoa/pudonnut* 'does/did not fall; the anal. model is *sanoo : sano : ei sano, nukkuu : nukku : ei nuku* etc.), *syöi, viei* (pro *söi, vei*, cf. the forms in 1;7 above)

1;9 ANALOGICAL FORMS: *kiipee : kiipi* (pro *kiipesi* 'climbed')

1;10 ANALOGICAL FORMS: *harjaa : harjo* (pro *harjasi* 'brushed')

Tuulikki also used the *i*-type instead of the *oi*-type, e.g. *laittaa : laitti* (pro *laittoi* 'put'). The inclination to replace the relatively rare *oi*-type (e.g. *laittaa : laittoi*) by the *i*-type (*laittaa : laitti*) where the *i*-suffix causes the deletion of the stem-final vowel, is a common phenomenon both in child language and in certain spoken variants of Finnish (e.g. many dialects).

At the age of 1;11 Tuulikki started to use *s(i)*-preterites, e.g. *putos* (< *putosi*) 'fell down', *pelkäs* (< *pelkäsi*) 'was afraid of', *tykkäs* (< *tykkäsin*) 'liked', *halus* (< *halusi*) 'wanted'. This new preterite type expanded to other verbs than contracted ones, e.g. 1;11 *hakes* 'fetched' (pro *haki*, SG3 present tense *hakee*), *lennäs* 'flew' (pro *lensi*, stem of the present *lentä- ~ lennä-*), 2;0 *auttasin* 'I helped' (pro *autoin*, stem of the present *autta-*), *hakes, nauras* 'laughed' (pro *nauroi*). This analogical expansion was soon weakened, but interestingly enough, in one group of verbs it not only remained but even got stronger: in the *i*-stems, in which the opposition of present and preterite has no overt marking in the 1st and 2nd person in Standard Finnish (e.g. *leikin* 'I play', *leikin* 'I played'). Here the analogical expansion of the *si*-preterite gives the possibility to mark the preterite forms with the *si*-element. This possibility was utilized by Tuulikki, e.g. 2;3 *leikkisin* 'I played', *poimisin* 'I picked up' (Standard Finnish *poimin*).

Similar expansion of the *si*-preterite also appears in certain spoken variants of Finnish (e.g. in the SW dialects).

In the same way as Tuulikki, also Tuomas started from the *i*-type and expanded it to certain *oi*-preterites, e.g. 1;8 *ajaa : aji* (pro *ajoi* 'drove') and *auttaa : autti* (pro *auttoi* 'helped'). A little later, Tuomas began to use the *s*-type in contracted verbs (1;9 *avas* 'opened', *piippas* 'peeped', *toppas* 'stopped') and favoured it in exence of other types, both in exence of the *oi*-type (1;9 *auttas* pro *auttoi* 'helped', *laittas* pro *laittoi* 'put'), and in exence of the *i*-type (1;9 *ylttäs* pro *yltti* 'reached' and *itkes* pro *itki* 'cried').

In the class of one-syllabic verbs, the normal preterite is formed by diphthong change (present *syö* 'is eating' : preterite *söi* 'ate', present *vie* : preterite *vei* etc.) or the formation of a diphthong from a long vowel (e.g. *saa* 'gets' : *sai* 'got'). These regular preterites usually emerge first in child language (e.g. Tuulikki 1;7 *söi, vei*), but later on many Finnish-speaking children produce more transparent (= without changes in the stem) preterite forms like *syö+i* 'söi', *vie+i* 'vei' despite of their articulatory difficulties (triphthongs instead of diphthongs), e.g. Tuulikki 1;8 *syöi, viei*. These analogical forms witness that the child is actively processing morphological elements.

7.2. Other early types of analogies

Typical early analogies in verb inflection are the expansion of the alternation between short final vowel in imperative SG2 and long final vowel in indicative SG3 to verbs which don't have this alternation in the standard language. One possible type of analogy is the shortening

of the final long vowel in the contracted verbs, e.g. Tuulikki 1;10 imperative SG2 *leika* (cut! pro *leikkaa*, cf. the indicative SG3 *leikkaa*), 1;11 negat. imperative SG2 *älä napa* (don't take! pro *nappaa*, cf. the indicative SG3 *nappaa*).

8. Conclusions

The productive morphological processing of verbs seems to begin with the formation of past tense forms; they are clearly contrasting with present tense forms of the same verbs. The earlier two-member miniparadigms of imperatives and indicatives may also at least partly be based on morphological processing, but they may consist of two separate rote-learned forms as well.

8.1. The protomorphological period and the demarcation of the phases

8.1.1. Onset of protomorphology

- first analogical forms: isolated analogies at Tuulikki 1;7, more systematic at the age of 1;8
- no clear verb spurt but a relatively steady increase of verb forms (this line of development might be at least partially due to the use of diary data)

8.1.2. Syntactic development: some preliminary observations

The one-word stage of Tuulikki continued till the age of 1;5. At the age of 1;5 Tuulikki used mostly 1- and 2-word utterances but at the end of 1;5 she produced some isolated 3-word utterances, e.g. *kukka kakka mane* < *sukka jalkaan pane* 'put the sock in the foot [illative]'. It seems that she had no clear 2-word stage.

At the age of 1;6 Tuulikki combined the subject and the predicate verb with an adverbial (e.g. *talo tähän topii* [= *sopii*] 'house here [illative] fits', when playing a jigsaw puzzle) but the case marking of the adverbial was sometimes defective: *kaataa, isi, kuppi* 'pour father cup' (the father is pouring tea in the cup; no illative suffix).

At the age of 1;7 suffix elements were still dropped in longer utterances, e.g. in *Puppe nuukkii* [= *nuuhkii*] *kissa* [= *kissaa*] 'Puppe [= a dog] sniffs the cat' (no object marking) and *hakee Tuuti Leego pali* [= *palikan*] 'fetches Tuuti [= Tuulikki] the Lego brick' (last word truncated). In both sentences there is no morphological marking of the object but both the subject and the object are well specified by the word order.

At the age of 1;8 Tuulikki used already quite clear 4-word utterances, e.g. *vesimuki(n) mukaan tarttee Tuuti* 'the water mug along needs Tuuti', *kantaa Tuuti hatun tinne* [= *sinne*] 'carries Tuuti the hat over there'.

8.2. Observations about the input-dependence

Certain long (= target forms have more than two syllables) forms seem to be input-dependent at least to some extent, e.g. the passive form *laite(taan)* 'we shall put' was produced as an adequate answer to the question *laitetaanko?* 'shall we put?'

8.3. Language-specific features

8.3.1. Homophony/syncretism

In verbs of the first group (cf. 1.2.1) with a final A: the 1st infinitive is identical with the indicative present SG3 in early child language, when the final gemination ~ glottal stop of the infinitive is not yet used. In verbs of the groups 2 and 3 (cf. 1.2.2 – 1.2.3) the indicative SG3 is identical with the imperative SG2 in early child language, when the final gemination ~ glottal stop of the imperative is not yet used.

8.3.2. Non-inflected vs. inflected forms

The basic forms have very little if any morphological marking (depending on the verb class, cf. 1.2) and they are often used before other verb forms. Nevertheless, from certain verbs other forms are used first, e.g. (rote-learned) passives, infinitives and participles.

8.3.3. Nouns vs. verbs

Active morphological processing of nouns typically starts from the formation of genitive-accusatives which clearly contrast with nominatives. Active morphological processing of verbs often starts from the formation of past tense at about the same age. Even more striking is the observation that the active production of A-partitives often starts in the same time as the production of A-infinitives.

The order of acquisition of verb vs. noun suffixes: verb suffixes are marked with **bold** letters in the following list which is based on the recorded material of 25 Finnish-speaking children aged 1 – 3 years. The serial order of the suffixes is defined by the age of the median child (Toivainen 1980: 33, 44, 160 - 163): **basic forms of verbs** (= imperat 2nd or indicat 3rd), partitive, **past tense (preterite)**, **negat. construction**, adessive (adv.), illative, inessive + allative (adv.), **1st person singular**, adessive, plural -i-, genitive (attr.), **passive**, inessive, accusative, allative, **perfect 3rd singular**, **3rd inf. illative**, plural -t, genitive + PP, elative (adv.), **1st infinitive**, **preterite negative**, illative + ablative (adv.), **2nd person singular**, elative, **perfect not 3rd**, **conditional**, ablative, **2nd infinitive inessive**, ablative.

8.3.4. Synthetic vs. analytic

Synthetic inflection precedes analytic: the long analytic constructions are first shortened to their key parts, e.g. the negat. construction is realized by the negation verb only or the compound past is realized by the participle of the main verb only.

8.3.5. Competition between early verb and noun expressions

The dynamic local cases, especially illative, seem to be an alternative to certain verb forms in early child speech (c.f. *kotiin* and *syliin* in 3.c above). Pragmatically they are very near such passive forms as *mennään* 'let's go' or *syömään* 'come and eat', and they have also the same type of suffixes = vowel lengthening + *n*.

8.3.6. Causatives

Among the verbal suffix elements the first derivational element to be used productively (in the own neologisms of the child) was the causative suffix -TTA-. Tuulikki used this suffix eagerly, e.g. at the age of 2;0 she produced the following own causative derivatives: *nousesta!* (= *nouse*+TTA+IMPERAT.SG2 = *rise*+CAUSAT+IMPERAT.SG2 'lift!')

juoksettaa (= juokse+TTA+INDICAT.SG3 = run+CAUSAT+INDICAT.SG3 'make run')

kaadutan (= kaatua+TTA+INDICAT.SG1 = fall+CAUSAT+INDICAT.SG1 'I make fall down')

Tuomas had at the same age (2;1 – 2;3) only one own word formed with a causative derivative element:

hypätä! (= hyppää+TTA+IMPERAT.SG2 = jump+CAUSAT+IMPERAT.SG2 'make to jump'); he used this when he wanted to be lifted as if he would make a big jump.

8.4. Typological considerations

The morphological system of Finnish is relatively rich; the early emergence of miniparadigms is expected.

Iconicity of the basic forms of the Finnish verbs: the early imperatives of the 2nd person singular end in a short vowel, which iconically reflects the limits of the scope of action (e.g. *anna* 'give' when the child wishes something to be given to her). In contrast, the 3rd person indicatives end in a long vowel, which iconically reflects the ongoing action that continues; the 3rd person indicatives could most often be accurately translated with the English *ing*-form, e.g. *nukkuu* 'is sleeping'.

References

Toivainen, Jorma (1980): Inflectional affixes used by Finnish-speaking children aged 1 – 3 years. Suomalaisen Kirjallisuuden Seura (The Finnish Literature Society), Helsinki.