

# Imperative as root infinitive analogue in Yemeni Ibbi Arabic: Two case studies<sup>1</sup>

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## Abstract

The paper shows that children acquiring Yemeni Ibbi Arabic<sup>4</sup> (henceforth referred to as YIA) go through a stage equivalent to the Root Infinitive (RI) stage found in non-null subject languages in spite of the fact that YIA is a null subject and does not have an infinitive construction. Spontaneous speech of two YIA children (2;1-2;11) showed presence of verbal inflections in 85-90% contexts. However, in a few cases, imperative forms occur in place of tensed forms, and indicate modal *irrealis* interpretation. We argue that the imperative form is therefore a Root Infinitive Analogue (RIA). The paper also provides evidence for a universal tendency to use non-finite forms in early stages of language development.

**Keywords:** *Acquisition of verbal inflection, the imperative form, root infinitive analogue, Yemeni Ibbi Arabic*

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<sup>4</sup>YIA is a dialect spoken in central Yemen mostly in Ibb governorate and some parts of Taiz.

## Background to the Study

The paper attempts to contribute to the discussion of early morphosyntactic development in children by providing data from two children learning Yemeni Ibbi Arabic in a monolingual context in Yemen. The two children are from two different age bands: the first child from 2;01 to 2;06 and the second child from 2;06 to 2;11, however, there were significant similarities in their linguistic behaviour, with respect to verb morphology. The second goal is to extend the root infinitive analogue hypothesis found in languages like Italian (Salustri & Hyams, 2003) and Spanish (Gathercole, Sebastian & Soto, 1999) to the acquisition of Yemeni Ibbi Arabic that has a different morphological structure.

Unlike English whose acquisition has been extensively studied, Arabic with high syncretism and a rich morphology, has received far less attention. Unlike in agglutinating languages like Tamil and Turkish (Ekmekci, 1982), in Arabic affixes do not typically express one function each, i.e. tense, person, number, gender, but a bundle of these functions are expressed by a single morpheme, as discussed in section 3 of the paper. Also, unlike English and many European languages, Arabic does not have an infinitive bare form (Fassi Fehri, 1993).

## Early Grammars and Root Infinitive

In non-null subject languages like English, French and German around 1; 5 children are found to produce root infinitives in finite contexts, called the Root Infinitive Stage, as shown in English, Dutch and French among others in (1-3).

- (1) a. Eve sit floor (1;7) (English) (Brown, 1973)  
b. That truck fall down (2;0) (Sano & Hyams, 1994)
- (2) Peter bal pakken (2;1) (Dutch) (Blom & Wijnen, 2000)  
Peter ball get-INF  
'Peter (wants to) get the ball.'
- (3) Dormir petit bébé (1;11) (French) (Guasti, 2002)  
sleep-INF little baby  
'A little baby sleeps.' (as cited in Murasagi et al, 2010 p.1)

Dutch and French have infinitive forms with distinct morphology (*-en* in Dutch, and *-ir* in French) and it is these forms that get used by children in early stages in place of finite forms. However, in languages that lack a clear infinitive form, as in English where the infinitive form and the simple present form are homophonous (as in *to eat* and *eat*), a RI phenomenon is found where children use a bare form with no tense and agreement morphology (as in 1a-b). The present literature on RIs does not differentiate between

languages with distinct infinitival morphology and those without (Harris & Wexler, 1996; Rizzi 1993/1994; Wexler, 1994); the focus of attention is the presence/absence of RI in non-null and null subject languages. It has been shown that RI's in null subject languages is rather short lived and accounts for less than 4% of the early verbal use (Guasti, 1993; Salustri & Hyams, 2003).

Though Root Infinitives are very rare in null subject languages (Bar-Shalom & Snyder 1997; Guasti, 1993/4; Deen, 2002; Salustri & Hyams, 2003), the use of non-finite forms has been found systematically cross linguistically: the imperative form in Italian (Salustri & Hyams, 2003); a past-tensed form *V-ta* in Japanese, (Murasugi, Fuji, & Hashimoto, 2007); a bare perfective form in Modern Greek (Varlokosta, Vainikka & Rohrbacher 1996); and the third person singular form of the present tense in the indicative mood in Spanish and Catalan (Grinstead, 2000). The imperative form in many languages has the same form as the third person singular (i.e. a bare form) and is most frequently used in child discourse as advocated by many (Tsimplici, 1992; Pratt & Grinstead, 2007; Garcia, 2007).

Salustri and Hyams (2003, 2006) highlight three properties of RIs:(i) it is tense-less (and non-agreeing in some languages) and therefore by definition nonfinite; (ii) it depicts irrealis interpretation, and expresses desires, requests, volitions and needs, and (iii) it is eventive and does not occur with stative predicates.

#### *Non-finite form and Irrealis*

One of the properties of root infinitives in non-null subject languages is that they indicate the modal (*irrealis*) interpretation as seen in Dutch (4). The non-finite forms in null subject languages also seem to indicate the *irrealis* mood as shown in Greek (5), Spanish (6) and Japanese (7) respectively in Hoekstra & Hyams (1998):

(4) a. Niekje buiten spelen. (Dutch)  
Niekje outside play-INF  
'Niek (=speaker) wants to play outside.'

b. Papa ook boot maken  
Papa also boat make-INF  
'Papa must also build a boat.' or 'I want Papa to also build a boat.'

(as cited in Murasugi et al., 2010, p.1)

- (5) pintar (Inés 1;10)  
to draw  
'I want to draw'  
Context: [Inés want to draw. She has the pen in her hand and she is looking for a piece of paper]

(Garcia, 2007, p. 45)

- (6) Ego katiti (Spiros 1;9)  
I sit-PERF- 3rd sing.  
'I am going to/want to sit'

(Hoekstra & Hyams, 1998)

- (7) Tot-ta (1;7) (adult: to-ru/ to-tte)  
take-Past  
'(I/You) want to take (the soap)'

(Nakatani & Murasugi, 2009)

Known as modal reference effect (MRE by Hoekstra & Hyams, 1998), this effect is seen in Dutch (Hoekstra & Jordens, 1994), German (Ingram & Thomson, 1996; Swedish (Plunkett & Stomqvist, 1992), Japanese (Murasugi, Chisato, & Hashimoto, 2007). In Dutch, 86% of the RIs have a modal meaning compared to English where only 17% RIs have a modal meaning (Salustri & Hyams, 2003). Children tend to represent the *irrealis* mood in English with semi-auxiliaries like *wanna*, *gonna*, *hafta* (Deen, 1997).

One of the proposals by Hyams (2005) is that the occurrence of the RI stage and how long it persists in child language depend on how languages encode the *realis* and *irrealis* mood. In reporting the results of a longitudinal case study of two children acquiring YIA, we show that children in YIA, a null subject language, which has no bare infinitive form like English, produce a construction (the imperative form) that strongly resembles RIs in other languages. Therefore, the distinction between null vs. non-null subject languages with relation to the existence of a 'root infinitive' or rather a 'non-finite' stage deserves further investigation. But before we discuss the child YIA facts in detail, we will examine the verbal morphology of YIA.

### Verbal inflections in Yemeni Ibbi Arabic

The study is on Yemeni Ibbi Arabic a dialect of Arabic spoken in the Ibb district of Yemen. It has a rich verbal morphology, like Standard Arabic which has affixes representing tense/aspect distinctions (imperfective/present and perfective/past); person distinctions (first, second and third); number (singular and plural: YIA has no dual); gender (masculine, feminine); mood (imperative/indicative); and voice (passive/active) (Benmamoun, 2000). Unlike Standard Arabic, YIA has only full subject-verb agreement occurring in the two

word orders, SVO or VSO<sup>5</sup>.

In adult YIA, a bare stem of a verb without tense and agreement morphology is not permitted as shown in (7).

- (7) a. \*ktb ‘write’  
b. katab ‘wrote’ (past/ perfect)  
c. yiktub ‘writes’ (present/imperfective)  
d. li-ʔuktu ‘is writing’ (present progressive)<sup>6</sup>  
e. ʔuktub ‘write!’ (imperative)

As in (7a), the verb stem, the consonantal roots, *ktb* ‘to write,’ itself is not allowed in Arabic. Some morpheme must attach to the verb stem as shown in (7b-e). Even in the imperative form, *ʔu* is added to indicate the jussive mood.

In Arabic there is no infinitive form in the manner that exists in English (Bulos, 1965) and every verb form includes stem and affixes. The inflected affixes encode more than one function at a time: Tense, Person, Number and Gender, and the latter three agree with the subject. For example, the suffix *-u* in (8a) in verb, *yilʕabu* ‘(they) are playing’ below stands for the third person masculine plural (3MP) and the suffix, *-ih* in (8b) *katab-ih* ‘(she) wrote’ stands for third person feminine singular (3FS)<sup>7</sup>.

(8) a. yilʕab-u                      kurah  
    IMPERF-play-3MP      N-football  
    ‘They are playing football.’

b. katab-ih                      al-wagib  
    write-past-3FS      the-homework  
    ‘She wrote the homework.’

### *The Perfective*

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<sup>5</sup>Standard Arabic has full and partial subject-verb agreement: full agreement occurs in SVO order and the verb carries gender, person, and number features. Partial agreement occurs in Standard Arabic in VSO order when the verb carries only gender and person with no information about number (Benmamoun, 2000).

<sup>6</sup>For progressive in YIA, separate word like, *gaalis*, ‘sitting’ refers to the progressive form. For example ‘*gaalis yiktub al-risaalah*, ‘He is writing the letter.’ The prefix, *li* which is attached to the present form as in (7d) shows the progressive form.

<sup>7</sup>We will use the following abbreviations in the paper, particularly in the glosses of the YIA data: 1, 2, 3 = first, second, and third person; M = masculine; F = feminine; S = singular; P = plural; FUT = future; IMPERF = imperfective; PERF = perfective; Neg = negation particle; SUBJ = subject; OBJ = object; IMP = imperative.

The perfective aspect occurs as a part of tense to indicate completeness/ completion of action.

Table 1 Perfective aspects of YIA verbal morphology

<i>Person</i>	<i>Number</i>	<i>Gender</i>	<i>Suffix</i>	<i>Perfective</i>	<i>Gloss</i>
First	Singular	F/M	-k	katub- <b>k</b>	I wrote
	Plural	F/M	-na	katab- <b>na</b>	We wrote
Second	Singular	M	-k	katab- <b>k</b>	You wrote
	Singular	F	-ki	katab- <b>ki</b>	You wrote
	Plural	M	-kum	katab- <b>kum</b>	You wrote
	Plural	F	-kein	katab- <b>kein</b>	You wrote
Third	Singular	M		katab	He wrote
	Singular	F	-ah	katab- <b>ah</b>	She wrote
	Plural	M	-u	katab- <b>u</b>	They wrote
	Plural	F	-ein	katab- <b>ein</b>	They wrote

Table 1 demonstrates the past tense paradigm in Yemeni Ibbi Arabic. All past tense inflections are suffixes. The 1st person singular and 2<sup>nd</sup> person masculine suffixes are homophonous where the suffix, *-k* is attached to the verb. The third point to be noted is that 3rd person masculine has a bare morphology in YIA, and is thus the unmarked form because there is no suffix like other perfective agreement forms.

### *The imperfective*

In contrast to the perfective form, the imperfective form refers to present, progressive, habitual actions, and future events. The prefix in an imperfective verb form represents person agreement (and occasionally gender<sup>8</sup>) whereas the suffix stands for number (and gender) agreement (Soltan, 2009). Second person forms imperfective forms start with *ti-*; all third person forms, except singular feminine form starts with *yi-*, the exception probably marks the gender distinction since there is no suffix to indicate it. Similarly the first person affixes need to be different *ʔa-* and *ni-* in order to capture differences in number and gender.

Table 2 Imperfective aspects of YIA verbal morphology

<i>Person</i>	<i>Number</i>	<i>Gender</i>	<i>Suffix</i>	<i>imperfective</i>	<i>Gloss</i>
First	Singular	F/M	ʔa-	ʔa-shrab	I drink
	Plural	F/M	ni-	ni-shrab	We drink
Second	Singular	M	ti-	ti-shrab	You drink
	Singular	F	ti-i	ti-shrab-i	You drink
	Plural	M	ti-u	ti-shrab-u	You drink

<sup>8</sup> The suffix, *ti-* in the sentence, *tishrab maa*, she drinks water, stands for the third feminine person, whereas the suffix, *yi-* in the sentence, *yishrab maa*, he drinks water, stands for the third masculine person.

	Plural	F	ti-ein	<b>ti-shrab-ein</b>	You drink
Third	Singular	M	yi-	<b>yi-shrab</b>	He drinks
	Singular	F	ti-	<b>ti-shrab</b>	She drinks
	Plural	M	yi-u	<sup>9</sup> <b>yi-shrab-u</b>	They drink
	Plural	F	yi-ein	<b>yi-shrab-ein</b>	They drink

Particles such as *sawafa* ‘will’ along with its shortcut *sa-* are used with the Imperfective in future tense contexts.

### *The imperative*

We now compare the second person imperfective forms in Table 2 to the positive imperative verb forms given in (9):

- (9) a. 2MS           ʔu-ktub-Ø  
b. 2FS ʔu-ktub-i  
c. 2MP ʔu-ktub-uu  
d. 2FP ʔu-ktub-ein  
“Write!”

In YIA, imperatives are used in positive and negative contexts to give orders and to make request, and are therefore not marked for tense. The imperative forms usually have a prefixal vowel unit (preceded by a glottal stop) ʔu (9a-d). The initial glottal stop and the vowel in the imperative forms is epenthesized for purposes of syllabification.

Furthermore, the positive imperative forms have agreement features which they seem to share with the imperfective forms minus the second person prefix *ti-* (compare Table 2 and 9b-d). Soltan (2007) claims that the imperative forms are derived from imperfective forms: this is further supported by the fact that imperatives appear with a jussive marker, which is a prototypical property of imperfectives. However, the genitive imperative forms have a construction like *laa-ti-ktub-Ø* ‘don’t write (2MS),’ thus having a person affix and a jussive marker.

Arabic varieties do not bare infinitive forms, and also non-finite verb forms. This is an offshoot of the morphological distinction of presence and absence of tense and agreement inflections on verbs, and its features of *realis* and *irrealis* interpretation. A non-finite form lacks the ability to license an independent clause (Huddleston, 1988; Hogg, 1992). The only non-finite forms, thus, in Arabic would be the nonverbal predicates that involve nominalized or verbal nouns, active participles, and passive participles (Fassi Fehri, 1993

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<sup>9</sup>Note that the prefix of the 3MP/3MF might be *yu* and not always *yi* depending on the verbs such as *yuktbu*, ‘they write’ and this is due to phonological reasons.

p.192). These lack inflection for tense and person agreement feature and carry nominal agreement morphology specified for Number and Gender only.

However, cross-linguistic research shows that non-finite forms do not strictly match the prototypical properties of +Tense and +Agreement. Tamil and Kannada (Haspelmath, 1993; Sridhar, 1990 respectively) – Tamil and Kannada participles show tense features but no agreement features. Imperatives in Arabic are non-finite forms (Al-Balushi, 2011; Ryding, 2005; Wright, 1967) since they do not display past/present distinctions, and occur only in eventive contexts (Hoekstra & Hyams, 1998). The form looks like morphologically finite but is non-finite and thus is in fact a “surrogate verbal form” in Cinque’s (2004) terms.

In studies on varieties of Arabic, Aljenaie (2009) showed that children select an imperfective verbal bare stem (morphologically similar to the imperative) in place of fully inflected forms. Abdalla (2002) studied the speech of Arabic speaking children with specific language impairment (SLI) and found that when their speech showed verbal inflection errors and an imperative form was used for a finite form. Abdalla (2002) claimed this use of an imperative form was because of an absence of a *distinct infinitival* form in the language.

In this paper we give evidence for the proposal that there is a non-finite stage in YIA. This is based on the longitudinal observation of two YIA-speaking children. This stage occurs around the same time when RIs are found in a non-null subject language, and seem to disappear by the time children are 3 years old. The form that is used during this stage is an imperative which is tenseless (but shows number and gender agreement) and has semantic interpretation that of deontic *irrealis*. This form appears at or before two years and accounts for more than half of children’s initial utterances and occurs in varied contexts. We argue that the imperative in YIA acts as a root infinitive analogue because of the following reasons.

- (i) In initial stages of language development, children are found to use the imperative form more than other finite forms (both perfective and imperfective) and perhaps more than adult use (this, our data cannot provide evidence for, since the adult speech (i.e. child directed speech) has not been analyzed).
- (ii) The use of imperatives is found to be higher than the RI in non-null subject languages.
- (iii) Like in other null subject languages, like Italian, Greek and Japanese, children use the imperative form to encode modal *irrealis* meaning and also jussive mood like in adult speech. However, the imperative form that is used in place of finite forms, and that encodes modal *irrealis* reading, decreases with age and linguistic growth, measured through Mean Length of Utterance<sup>10</sup> (MLU) increase.

We provide empirical evidence for each of the above from the spontaneous speech of two children learning Yemeni Ibbi Arabic.

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<sup>10</sup> For MLU, Individual morphemes in each utterance, were counted in each utterance and was calculated to understand the level of syntactic development of the two subjects.

## Early nonfinite forms in Child YIA

### *Data and Method*

Our analysis relies on data from longitudinal corpora of two monolingual YIA children Ibraheem (2;01 to 2;05) and Wala (2;06 to 2;10) consisting of 60 minutes audio and video recordings of natural spontaneous conversations. The children were recorded twice a month for a period of five months in their home settings in the presence of the mother.

Seven hundred and ninety (out of 2106) utterances from Ibraheem and 769 (out of 2132) from Wala were analysed for the study. All imitations, repetitions, formulaic uses and unclear and inaudible utterances were excluded from the analysis. The selected data were transcribed in the format adapted from the CHILDES system. The data analysed for the present study are summarized in Table 3 below.

Table 3 Participants characteristics

Subjects	Gender	Age	Average of MLU	Number of verbal forms analyzed
Ibraheem	M	2;01.1 – 2;05.26	2.95	790
Wala	F	2;06.13 – 2;10.10	3.08	769

### *Coding*

Each verbal form was coded for the type of utterance (imperative, declarative and interrogative); the type of verb (imperfective, perfective, imperative); interpretation of imperative (*realis*, *irrealis*); and the use of agreement features (number, person and gender). All incorrect use of verbal inflection was coded as substitution or as omission of a verbal morpheme. The following example illustrates how coding was done.

(10) Ibraheem (2;03) is telling the researcher that his grandmother has gone out.

diza? (adult form: giziŕeh)

go.PERF.3MS

‘(He) went.’

(Declarative, perfective, *realis*, 3MS for 3FS)

## Results and discussion

### *Distribution of finite and imperative forms*

To show that the imperative is a root infinitive analogue in YIA, the first prediction is that children will use more imperatives than other forms at early stages. Table 4 and Table 5 give the distribution of finite vs. imperative verbs in the *Ibraheem*- and *Wala*-corpus.

Table 4 Finite and Imperative forms in the *Ibraheem* corpora

Age	MLU	Fin %	Imper %
2;1- 2;2	2.72	38.8	61.2
2;2- 2;3	2.7	54.5	45.5
2;3- 2;4	3	63.0	34
2;4- 2;5	3.2	78.8	21.2
2;5- 2;6	3.23	81.9	18.1

Table 5 Finite and Imperative forms in the *Wala* corpora

Age	MLU	Fin %	Imper %
2;6 2;7	2.9	40.7	59.3
2;7- 2;8	3	71.4	28.6
2;8- 2;9	3.07	72.2	27.8
2;9- 2;10	3.35	78.6	21.4
2;10- 2;11	3.27	92.1	7.9

Imperatives started out high and decreased with increase in MLU for both *Ibraheem* and *Wala*. At 2.72 MLU 61.2% of *Ibraheem* verbal forms were which dropped to 18.1% by the time his MLU rose to 3.23. Similarly, 59.3% of *Wala*'s initial verbal forms were imperative, the use fell to 7.9% by 3.27 MLU. This finding was consistent with Salustri and Hyams (2003) findings for Spanish, and Rus and Chandra's (2005), findings for Slovenian though in both studies, data from younger children was looked into, where the imperatives comprised 2/3 of the verbal utterances.

To complement the decrease in the imperative form with increasing MLU, the finite forms (the imperfective and perfective) in the two corpora showed an increase. Imperfective forms increased from 31% to 55.3% in the *Ibraheem* corpora and 33.5% to 59.5% in the *Wala* corpora in a period of five months. The use of perfective forms showed a slower increase from 7.8% to 26.6 in the former, and 7.2% to 32.5% in the latter corpora. No RI is attested in the data. Also modals are not attested in *Ibraheem*'s and *Wala*'s data at the stage when imperative use is very high.

A diagrammatic representation of the decrease in the imperative form in both the children is presented below:

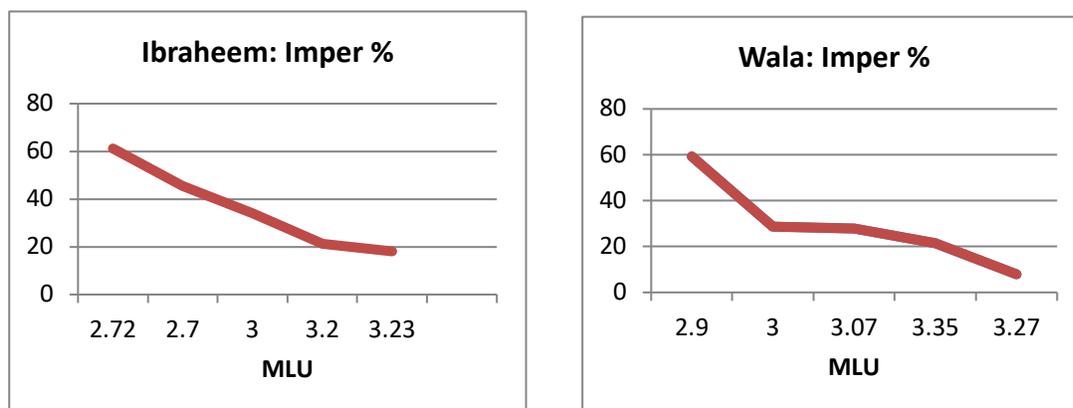


Figure 1. Production of imperative forms

Summing up, in YIA which is a null subject language and has no infinitival form, RIs are not found, but the non-finite tenseless imperative occurs at a high rate in more than 50% contexts at MLU less than 3, which in the dataset corresponds to 2;0-2;6 age. Even though comparison with adult data is not available in the present study, it is clear that this occurrence of use is far higher than the adult child directed speech in null subject languages and non-null subject languages (adult German attests an average of 36% imperatives), Salustri and Hyams (2006).

#### *Comparison with RIs*

Salustri and Hyams (2003) argue that imperatives in Italian have the same status as RIs in German and French. Imperatives like root infinitives do not (generally) carry 'finite'.

Table 5 RI and Imperative use in null and non-null subject languages

	<b>Languages</b>	<b>RI</b>	<b>IMP</b>
<b>a.</b>	German		
	[2;0-2;4]	81%	1.5%
	[2;6-2;7]	61%	6.5%
<b>b.</b>	Dutch		
	[1;7 -2;1]	70.6%	--
	[2;1-2;6]	20.1%	--
<b>c.</b>	Icelandic		
	[1;7- 2;1]	65%	1%
	[1;8-2;4]	24.1%	
<b>d.</b>	Italian		
	[2;0 -2;4]	2%	55.5%

	[2;6-2;7]	7%	34.4%
e.	Catalan		
	[1;7-1;8]	0%	41%
	[2;4-3;00]	0%	31%
f.	Spanish		
	[2;1 -2;3]	0%	41%
g.	Hungarian		
	[2;1-2;5]	1%	21%
h.	Yemeni Ibbi Arabic		
	[2;1-2;2]	0%	61.2%
	[2;5-2;6]	0%	18.1%

morphology. They also display similar modal meanings, are eventive and are much more frequent in child speech than the respective child-directed speech. Table 5 illustrates the comparison between null subject and non-null subject languages. As seen in Table 5, RIs were not attested in YIA like the null subject languages (Italian, Catalan, Spanish & Hungarian) and the imperatives were used in more than 50% contexts in early stages of language acquisition. The imperative use decreases with age, as was found in all languages, where imperative operates as a root infinitive analogue.

The high use of the imperative form in YIA is consistent with Italian, Catalan, Spanish and Hungarian. Similarly the decrease in the use of the imperative form signals that finite forms increase with age. The imperative form is a non-finite form, since it is devoid of person agreement.

#### *Imperative forms used for finite forms*

An examination of children's utterances shows many instances of verbs without expected tense morphemes. However, there are a number of instances of imperative forms where inflected verbs would be expected. (11a) is used in place of an imperfective form and (11b) in place of a perfective form.

(11) a. Ibraheemis speaking about his father taking his clothes off.

Hul<sup>11</sup> (2;02) (adult: yu-Hul 3.take.IMPERF.MS)  
 take-MS (off clothes)  
 'Take off your clothes!'

b. The researcher asks where Wala's father went.

?uxlud(2;06) (adult: xarig go.PERF.3MS)

<sup>11</sup>Note the imperative form, *Hul*, which is a CVC, does not require *?u*, as a prefix for its pronunciation. *Hul* is the bare imperative form which is homophonous to the imperative form.

go.MS  
'Go out!'

Similar substitutions were found in SLI children in Abdalla (2002) in Urban Hijazi Arabic (UHA), and imperatives were used as default substitutes of tensed forms in the absence of bare roots and infinitive forms. In the Ibraheem and Wala corpora, the imperative form was used for the imperfective more often than for the perfective form. There might be two explanations for this asymmetry in substitution. The first being that the imperfective and the imperative forms share the stem and the suffixes and the second being that they both encode an *irrealis* interpretation, as opposed to the perfective form which is morphologically distinct and has a *realis* interpretation.

### *Irrealis interpretation of the imperative*

The co-occurrence of finite and non-finite forms in child speech has raised the question whether these two have the same interpretative properties or not. There is some evidence suggesting that the temporal reference of RIs is similar to that of finite forms (French: Pierce, 1992; German: Poeppel & Wexler, 1993). However, evidence from other studies suggests that RIs and finite forms differ regarding their interpretative properties in two respects. First, RIs are argued to receive most often a modal interpretation (Dutch: 86.3% of RIs had modal interpretation (Wijnen, 1997)). Second, RI constructions are restricted to one class of aspectual properties: most verbs are eventive predicates. Finite constructions, on the other hand, allow both eventive and stative predicates (Jordens, 1990; Ferdinand, 1996; Wijnen, 1997).

Hoekstra & Hyams (1998) draw upon the predominant future interpretation of RIs observed in the above studies to argue that the temporal reference of RIs is that of modal (*irrealis*) interpretation. According to them children's RIs contrast with finite clauses in that while the latter "describe actual states of affairs, RIs do not refer to actual eventualities but eventualities that are not realized and are therefore interpreted as statements of desire with respect to these eventualities" (Hoekstra & Hyams, 1998, p. 27). Children's use of non-finite forms is therefore not an optional process in the early grammars but results from their attempt to map different meanings onto specific inflectional elements. With overwhelming frequency, RIs have a modal/*irrealis* meaning (the Modal reference effect) and the expression of *irrealis* mood in the early grammar excludes a tense specification (Deen & Hyams, 2006).

In this section we show that *the imperative forms* parallel RI constructions in YIA in terms of their semantic properties. In our study we found that Ibraheem and Wala used imperatives to express *irrealis* mood.

The imperative has an *irrealis* interpretation, either to make a request, or to give an order as in (12) which is like adult speech; and or to indicate volition (13), which is not attested in adult language. The latter is not attested in adult speech. Adults either use two

tensed predicates or a modal auxiliary to express modality and volition, but never an imperative form.

(12) a. Context: Ibraheem tells the researcher to look at the hat.

ʕayyen! (2;1) [request/order]  
see.2MS  
'See!'

b. Context: Wala tells the researcher to move the toy aside

wasseʕ! (2;7) [request/order]  
move.2MS (aside)  
'Move aside!'

(13) a. Context: Ibraheem is trying to ride the toy car.

ʔittab! (2;2) [volition]  
ride.2MS  
'Ride!'

Intended meaning: 'I want to ride the car.'

b. Context: Wala is holding a doll and trying to hide it under the cover.

xabu-h! (2;06) [volition]  
hide.2MS-it  
'Hide it!'

Intended meaning: I want to hide it (the doll under the cover).

In (13) Ibraheem used the imperative form, *ʔittab* (2MS) to express volition and Wala used the imperative forms, *xabuh* (2MS), to express volition. The adult form to express volition is as in (I want to ride the bicycle) is (*ʔashti ʔarkab al-daraagah*) where *ʔarkab* is a finite form, the imperfective, along with another finite form the matrix verb (*ʔashti*) 'want'. YIA adults would hardly use the imperative form (*ʔirkab* [child's pronunciation is *ʔittab*]) for this meaning. Wala at 2;6 used *xabu-h* where an adult would use [*ʔaxabuʔuh*].

We present the distribution of semantic contexts in which imperatives are used such as expressing intentional meanings (volitions) in the corpus of Ibraheem and Wala. Figures 1 and 2 show that imperatives were used to express adult like constructions of putting forth a request or order is 90-100% cases and to express volition and modal reference in less than 10% cases.

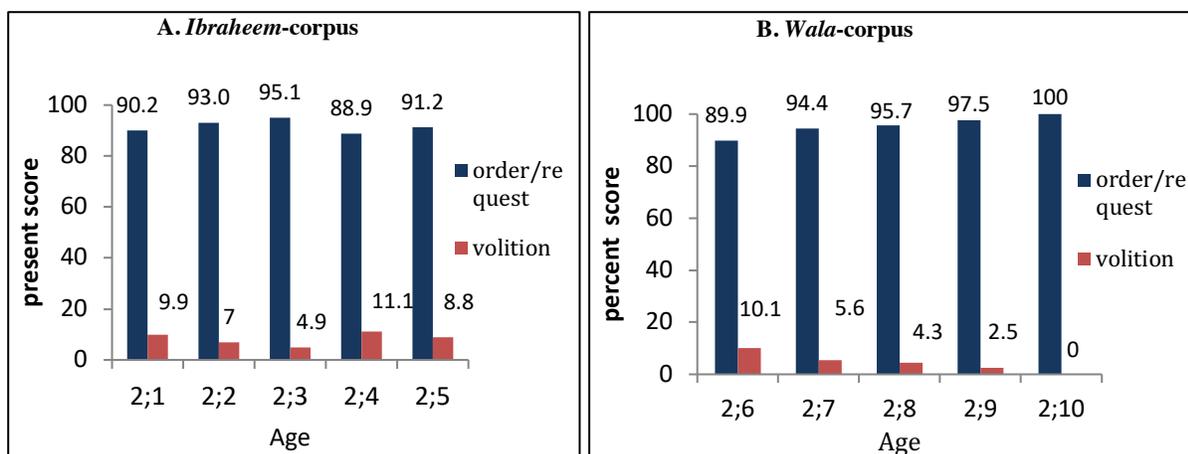


Figure 2. Semantic interpretation of the imperative in child corpora

In Wala's speech, the use of imperatives to indicate volition dropped from 10% in 2;06 years to 0% in 2;10 years. In Ibraheem who was younger, the use of imperatives to express volition, continued to be used from 2;01 to 2;05 years, and was in the range of 5-11%. This reaffirms our hypothesis that imperatives that are used by children to express volition (not found in adult speech) decreases with age. On the contrary, imperative forms that are used by children to make requests and to order (found in adult speech) neither increase or decrease.

Adult YIA uses modals to express irrealis mood. Though at initial stages children use only the imperative form to express *irrealis* mood, but at later stages (at MLU 3.2 and above) two instances were found, where children either described future events or expressed possibility using modals, like *can* and *can't*. Such constructions appear later and are very few in the dataset.

## Conclusion

In null subject languages like Italian and Greek, children go through an RIA stage instead of an RI stage. In this paper, we argue that since YIA is [-bare stem], children use RIAs, rather than RIs in early stages of language development. The verb stem in Arabic is not a well-formed word, and therefore children use a 'surrogate nonfinite form' that is not specified for tense (Cinque, 2004).

Based on the acquisition data of Ibraheem and Wala, we showed that in early YIA, a [-bare stem] language, the root infinitive analogue is an imperative morpheme form. Our study ties in with the findings from other [-bare stem] languages, such as Korean (Kim & Phillips, 1998), Italian (Salustri & Hyams, 2003, 2006), Greek (Varlokosta, Vainikka & Rohrbacher, 1996; Hyams, 2005), Turkish (Aksu-Koç & Ketzrez, 2003), and Arabic (Aljenaie, 2000). In these languages, instead of RIs, children employ the surrogate form of infinitive that is devoid of tense and person agreement.

Our study also confirms Abdalla's (2002, 2008) findings of SLI children where imperatives are used as default substitutes for tensed forms. However, we refrain from claiming that imperative form is actually an imperfective bare form on the basis of the temporal interpretation of the predicates, thus not conforming to Aljenaie's (2010) study on Kuwaiti Arabic dialect where she claims that children select an imperfective bare verb stem as a default form in place of inflected forms, a finding which is consistent with Benmamoun's (1999, 2002) argument that the imperfective verb is the default form in Arabic.

The imperative was the most frequently used form in the early two-word stage, and the frequency of imperative use decreased with age as expected since it appeared to be an early overgeneralized form. As with the root infinitive phenomenon, finite forms (the imperfective/ present tense and the perfective /past tense of the declarative) featured in children's speech alongside the imperative. In some cases, however, the imperative was overgeneralized to the finite contexts, and it was overgeneralized more in imperfective contexts than in perfective context. This can be explained on account of the imperfective form's morphological similarity with the imperative form. The imperative has interpretive properties shared by the RIs in non-null subject languages, and are not usually 'optional' but to indicate a modal or *irrealis* interpretation.

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