
*The Development of Negative
Structures in Children: Evidence
from Jordanian Arabic*

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Abstract

The purpose of this paper is mainly to analyze the syntactic structures used to represent the different categories of negation in the speech of Jordanian Arabic-speaking children with Mean Length of Utterance (MLU)⁽¹⁾ less than 4.0. The field work of this project was conducted in the city of Irbid in the northern part of Jordan. The data collected primarily consists of tape-recorded spontaneous, naturally occurring and elicited speech from 15 children between the age of 2 1/2 and 8 years of age who were visited on the average of four and a half hours each. Three supplementary tests of the imitation, comprehension and production of negation were given. The analysis of negative utterances in all age groups suggests that utterances can be classified into two basic developmental stages on the basis of complexity of structure and underlying reference.

1. Introduction

I. 1. The Problem

Taking into account the view that negative sentences are complex phenomena for both children and adults (Slobin, 1966), this present paper in part will explore some of the linguistic, cognitive and possibly other factors that lie behind the acquisition of the negative forms by children. To investigate such factors, the focus will be to study:

- a. Semantic negative categories.
- b. Children's ability to produce negative sentences.
- c. Children's ability to imitate negative sentences.
- d. Children's ability to comprehend negative sentences.
- e. Children's ability to produce, comprehend, and imitate affirmative sentences in contrast with negative sentences.
- f. The possibility of developmental hierarchies of test difficulty and sentence type difficulty for the age groups in question.

In the main, the hypothesis to be tested is whether the steps of negation acquisition isolated by Fraser, Bellugi and Brown (1963) in American children and Beaudichon and Lemaire (1972) in French children are equally valid for Jordanian children. It is important to test the cross-cultural stability of the developmental schema proposed by these researchers. It is in view of this that the present project, in which diverse aspects of negation (comprehension, imitation and production) have been investigated, has been carried out. Spontaneous speech has been the central source of data. Moreover, comprehension, imitation and production tests have been designed to investigate the negation aspects that might have been overlooked in spontaneous speech.

I. 2. Theoretical Rationale Behind the Study

There are several reasons why negation has been the focal point of investigation in this project. The straightforward reason is that negation is a phenomenon that underlies all language systems. And a systematic study of negation acquisition will help in the process of the entire language acquisition study. In English, negation structures have been thoroughly investigated from both the traditional perspective (Jespersen, 1917) and the transformational perspective (Klima, 1964) and in at least two dialects (Klima, 1964; Labov et al., 1968). Such studies of the adult negation system in English can be of great significance in relation to the adult negation system in Arabic. And consequently, it will be of great help in investigation of negation acquisition in both Arabic and English.

Another theoretical rationale is that negative sentences spoken by adults are quite complex phenomena for children to comprehend, as demonstrated by Slobin (1966), Donaldson (1972), Harris (1975), and Abulhaja (1986). Such

complexity of the phenomenon of negation may give us an insight into the role of complexity in the acquisition of the entire language system. And since the negation system is a fundamental part of all languages, this present project will add more to our knowledge of universal complexity role in the negation acquisition process. That is, we can determine whether a child proceeds from simple to complex structures by looking at the acquisition of negation structures in particular. Slobin points out that linguistic complexity has a definite function in the acquisition process:

"Although one can talk about order of acquisition in terms of semantic or cognitive complexity, there is clearly a point at which formal linguistic complexity also plays a role" (Slobin, 1971: 308). The determination of how much a role linguistic complexity plays may lie in studies of syntactic structures such as negation.

Besides the notion of complexity, an apparently opposing fact is that negative syntactic structures emerge relatively early in standard English and in other languages. According to Slobin: "In every language for which relevant data are available, there is an early form of negation in which a negative particle is affixed to a simple sentence" (Slobin, 1971: 306). A more complete understanding of the entire child language acquisition process will be achieved by weighing these seemingly opposing notions against each other: i.e., complexity vs. early emergence.

It may be pointed out that an additional incentive for this project is the lack of comprehensive and systematic studies on negation acquisition in Arabic as spoken in Jordan.

In terms of semantic categories (see Appendix A), expected early-emerging categories include rejection, non-existence, denial, location, and name attribute. Late-emerging categories are expected to include prohibition, ability, cessation and colour contrast.

II. Linguistic Background

A. Scope of Negation

Klima (1964) states that negation consists of linguistic structures which permit the occurrence of: a) the **either-conjoining**, e.g., publishers will not reject suggestions, and writers will not accept them, either. b) the negative appositive tag **not even**, e.g., writers will not accept anything, not even suggestions. c) the **tag-questions without not**, e.g., writers will never accept suggestions, will they? Klima differentiates the scope of negation on the basis of the position of **not** in the sentence and the structures over which **not** has its effect. Three variations in the scope of negation have been identified:

- a) over the whole sentence

- b) over the complement clause
- c) over only a word containing the negative prefix such as **unhappy** (not happy)

Examples of these types will be:

- a) I do not like to swim. (Whole Sentence Negation)
- b) He says that there will not be rain. (Verb Complement Negation).
- c) The child is **unhappy**. (Word Negation)

Another type of negation which has been stressed by Jespersen (1917) is the double negation. That is, a sentence in which **not** occurs twice within the sentence, once in the main clause and once in the subordinate clause. Jespersen explores the significance of double negative in English and other languages. He states that the double negation always modifies the antecedent idea in languages, although in formal logic two negatives make an affirmative.

Jackendoff (1972) provides a generative interpretive semantic framework for Klima's analysis of negation. It appears that Jackendoff's analysis of semantic components, particularly **focus** and **presupposition**, as surface structure phenomena, has been a major contribution. Jackendoff's analysis of sentence negation is done in terms of surface structure phenomena. Although Jackendoff maintains Chomsky's definitions of **deep structures** and **surface structures** in his analysis, he assigns a new role to surface structure in his interpretation of **focus** and **presupposition**. He defines **focus** as the word or words within a particular sentence which receive the main stress and frequently have the highest intonation contour, and are, therefore, the most significant semantic units in the sentence. **Presupposition** refers to speaker assumptions about the information contained within the sentence which are in direct response to the sentence focus. On the other hand, Noam Chomsky (1965: 16) defines **surface structure** as the level in transformational grammar "determined by repeated applications of certain formal operations called grammatical transformations." The phonological interpretation assigns a phonetic interpretation to the surface structure to objects of a more elementary sort. Chomsky (1965: 136) also defines **deep structure** as structures generated by the base component, assuming that the semantic interpretation of a sentence depends only on its lexical items and the grammatical functions and relations represented in the underlying structures in which they appear.

B. Negation System of Arabic as Spoken in Jordan⁽²⁾

(Phonetic conventions used are described on pages 370,371).⁽³⁾

In Jordanian Arabic, a sentence may be negated by inserting any of the negative forms: **miš**, **lā**, **mā**, **lā...š** or **mā...š** before the part denied.

Examples:	ilwalad miš mariid	"The boy is not sick."
	ma akaltiš	"I did not eat."
	má akalit	"I did not eat."
	lá tilmis	"Do not touch."
	la tilmisiš	"Do not touch."

Combined with the personal pronouns, we get negatives.

Examples:	miš ana	=	"Not me."
	mahuuš	=	"He is not."
	maniiš	=	"I am not."

The following will be an investigation of the Arabic negative system as spoken in Jordan.

Part One: Negative Forms: miš and má...š
Consider:

- miš mumkin ažiilak gabl issaṣa sitti. "It isn't possible for me to (or I cannot) come to you before 6 o'clock."
- humma miš mittifgiin maṣ (or bein) baṣd ṣaṣan kulwahad miš faahim masuuliytu - kwayyis. "They don't get on well together since neither of them fully understands his responsibilities."
- maṣiṣ ṣaay baṣd idduhur. "I am not coming in the afternoon."
- ma fiiluzūum tiizi. "There is no need for you to come."
- ma ṣatluuṣ zyadeh ṣaṣan ma byiṣteṣ liṣ kwayyis. "He hasn't had a raise because he doesn't work well."

The two most frequent forms of negation are:

- with the negative particle miš
- with má preceding and -š following (suffixed to) the word negated.

Considering for the moment negation of one-word affirmative sentences: i) occurs with **nouns, participles, adjectives, adverbs**, etc., and ii) with verbs and **fiih and find-**, e.g.:

i)	miš ilwalad	"not the boy"
	miš láazim	"(it is) not necessary"
	miš inta	"not you"
	miš kbiir	"not big"
	miš ha ṣ a	"not this"
	miš foóg	"not on top"
	miš bisur ṣ a	"not fast"

- ii) ma fhimtiš "I didn't understand"
 ma b(y) i ɣ rifiš "He doesn't know"
 ma fiš "There isn't any"
 ma ɣ in diiš "I haven't any"

1) *miš* is essential in the negative nominal sentence, e.g.:

?ana miš Xaddamak	"I am not your servant"
humma miš mawżudiin	"They are not present"
haa ʔ miš minna	"We are not responsible for it (It, that is not from us)"

mis is also common with a following imperfect prefixed with ha, e.g.:

miš ^v rahisafir	"he will not be making
miš ^v haysafir	the journey"

- 2) Although nowadays *miš* is generally used, instances of the 'split' negative (**ma - š**) with the independent pronouns **are** still found, e.g.:

mantíiš žaay ma ʔ (áa) na
 "Aren't you coming with us?"
 (or inti miš žaáy ma ʔ (áa) na)

- iii) the forms of **ažáa**, **ažúu**, **ažat**, **ažen**
 in **ma ažáaš** "He didn't (hasn't) come,"
ma ažúuš (masc.) "They didn't (haven't) come."
ma ažates "She didn't (hasn't) come."
ma ažên (fem.) "They didn't (haven't) come."

Part Two: The Negative Imperative, *laa...wala* and Emphatic Negation

1. The Negative Imperative

Consider:

- a) **ma tudxuliš** (or **tid-**); "Don't go in!"
 b) **ma truhiš** - **hunāak**; "Don't go there!"
 c) **ma tutrukniš**; "Don't leave me!"
 d) **ma tsarixiš**; "Don't cry (shout)!"

2. *laa...wala*

Consider:

- a) **láhaš wala haš lakín haš áak**. "Neither this nor this but that."
 b) **la-Zšīir wala-ikbīir k šjir lakín mutawassit**. "Neither small nor big but average."
 c) **láráah wala hayrūuh** (rahīrūuh). "He has neither been nor is he going,"
 d) **haš a irražul la by (i) gra wala by (i) ktub**.
 "This man neither reads nor writes,
 e) **láaiža š in (d) n a š almaktab wala gāabal ilmudiir wala ḥada šāafu bilmar-ra**.

"He has neither come to us in the office, nor been to (lit. "met")
 the manager, nor has anyone seen him at all."

lá...wala corresponds to English **neither...nor**. The negative particle in the construction is **lá-** for the lengthening of the vowel in (a). **wa** is prefixed to every **la** after the first. There is no limit to the number of component words or clauses which may be preceded by the particle, cf. (e).

Notice that the imperfect prefixes are often omitted with verbs other than the first as in

laā (ra) ḥaššūuf wala tismaš
 or **láarahiṣšūuf wala tismaš** "you

will neither see nor hear." In (d) above,--- "**la-byigra wala yiktib**" is a possibility.

It is possible for the first negative to be of the **mā - š** type as in **mā katabtiš fil-žarayid wala algēet xitabat**. "I have neither written for (lit. in) the press nor made (any) speeches."

Notes:

- i) **yāa...yāa** is used in the way of English **either...or** e.g., **yāahaš ḡa, yaahaaš a**.
 either this or that, **yabitrūuh yabtistanna**, either go or stay.

- ii) The negative particle **la** may be compared with **lā** "no." **lā** when used for emphatic disagreement, often has the form **laa**, e.g., **lāa, laa, ?abadan** "No, no never!"

3. Emphatic Negation:

The term emphatic negation is reserved for the use of **mā** without **-š**. This occurs (i) with a few words commonly associated with negation, e.g., **ʔ umr, waḥad**, and (ii) with the "oaths."

i) **ʔumr** (lit. life) + pronominal suffix + **mā** = "never" e.g.:

ʔ umri mā šuft waḥad mi ʔ lu (or **zayyu**). "I have never seen anyone like him." **-š** may be included, with less emphasis, i.e. **umri mā šuftiṣ wāḥad mi ʔ lu. mā-š** may also be applied to **ʔ umr** rather than the following verb, i.e.,

mā ʔ umriṣ šuft waḥad mi ʔ lu.

- ii) The common "oaths are **wallaahi** (lit. and my God), **wilmushaf** (and the Qur'a'an), **winnabi** (and the Prophet), **wirabna** (and the Lord), to which may be added **?inšalla** (derived from the divine name) in the specialized use with a following perfect shown below:

laa wallahi māa-bagdar (= **ma** + **bagdar**)

lāa wirabi māa-bagdar.

lāa wirabna māa-bagdar.

"No, by Heaven, I cannot."

?inšalla mā (wa) ḥad (a) akal "May nobody ever eat, then!"

?inšalla māa ruḥit. "Go or not, as you please."

Note:

- i) **lāa-walla** is a very common alternative to **lāa wallahi**.

Part Three: Negation and Questions

1. Negative Questions

An Arabic sentence, affirmative or negative, may also be used as a question by changing the intonation. In the meantime, in the following English example in which the first part (up to 'yesterday') is commonly said as a statement, the rise of voice is taking place in 'isn't he?'

e.g., He's the man I saw yesterday, isn't he?

Jordanian Arabic does the same thing with the very common **miš heik** (lit. not so?) and says **huwwa byitkalam ʔ arabi kwayyis, miš heik?** "He speaks Arabic well, doesn't he?" (tag question). There is little difference of meaning between this use of **miš heik** and the less common device of prefixing **miš** to the sentence, e.g., **miš huwwa šab tayyib?** "Isn't he a good young man?"

2. Another very common interrogative construction is with **walla** "or" either in the

fixed formula **walla laʃ** "or not" or used to introduce an alternative. The sentence up to **walla** has the interrogative (rising) intonation while from **walla** no, it has the typically affirmative (falling) tone. This is again paralleled in English:

- a) **huwwa ʔilli ʃuftu-mbarih walla la ʃ(?)?** "Is he the one I saw yesterday or not?"
 b) **aʒa walla lissa (lahassa)?**

"Has he come yet or not?" (lit. has he come or not yet).

3. In answer to negative questions, one sometimes hears **ʔywa** "yes" and **laʃ (ʃ)** "no" used in a way misleading to non-native speakers. For instance, in reply to **ma ruhtisʃ** "Didn't you go?" "you may hear **ʔywa, ma ruhtis.**" No, I didn't or **laʃ (ʃ) ruht** "yes, I did," **laʃ (ʃ)** for **ʔywa** and vice versa is however, possible.
4. For sentences such as:
 a) I have not any.
 b) I have none.

We find this type of negation expressed in Jordanian Arabic as, consecutively:

- a) (ʔ na) **máa ʃ indii - (s) ay isii**
 b) (ʔ na) **máa ʃ indii - (s) isii.**

II. Procedures

This present project is mainly a study of the language of children and their conversations with their mothers. The spontaneous speech of children is the central issue in investigating the process of negation in Jordanian Arabic, while tests have been designed to cover the semantic negative categories that could have been missed in the spontaneous speech of children.

II.1. Subjects

Five age groups ranging in ages from 2 1/2 years old to 8 years old have been represented in this study, i.e., ages between 2 1/2, 3 1/2, 4 1/2, 6, and 8 have been investigated. At each age level, there were three children. At each of the age levels, the parents had the same level of education and income, approximately.

II.2. Apparatus

A cassette tape recorder was used to gather all the data for this study. Selection of a cassette rather than a reel-to-reel tape recorder is due to mere practical reasons; and it proved to be adequate. To avoid distractions, sessions of taping were held in rooms where the only persons present were the mother, the child and the investigator. I was the only investigator during the entire stage of collecting the data relevant to my study.

II.3. Methods for Sampling Children's Spontaneous Speech.

There was a 4-4 1/2- hour tape recording for each child. Either three or four visits were used to reach the total of about 4 1/2 hours which had been tape recorded. During the taping sessions, the investigator played a relatively inactive role. Children and their mothers mainly did the talking. For the most part, the child and the mother talked about whatever they had around the home. In the meantime, the investigator did not use many negative sentences in his conversations with both children and mothers. It should be observed, as well, that everyday dialect was used and that only families where both parents were using the same dialect and the dialect dominant in that area were included. Essentially, one dialect was used by all families included. Families' verbal consent was obtained to avoid any sort of misunderstanding. The taping sessions were divided and carried out as follows:

- a) The first session was just for spontaneous recording, i.e., a sort of orientation session.
- b) The second session was for both spontaneous speech and testing. It started with fifteen minutes of spontaneous speech; then with production, comprehension and imitation tests, two items per category. It was finished with more spontaneous speech.
- c) The third session was exactly the same as the second, but new items were used.
- d) The fourth session was designed to secure enough spontaneous speech in order to be sure the total time planned for had been covered.

II.4. Testing of the Production, Comprehension and Imitation of Negation.

The estimated testing time was 30 minutes. The tested negation categories were:

- a. Colour Contrast
 - b. Non existence
 - 1) Non presence
 - 2) Nonoccurrence
 - c. Cessation and Disappearance
 - d. Location
 - e. 1) Name Attribute
 - 2) Action of Subject
 - f. Prohibition
 - g. Rejection
 - h. Ability vs. Disability
 - i. Split Negation
 - j. Denial
 - k. Double Negation
-

Target sentences to be observed were basically one positive sentence and three negative sentences in each category.

Tests fell into three types and were carried out in the following order:

1. Production Test (PT)

When concluding this test, the item number was recorded on tape. In this test, the pictures were paired in a way so that the illustrated contrast between affirmative and negative reference was evident for the children, where only culturally familiar items were used. Thus, items and samples used were likely elicited by the picture presented. No feedback was given to the children about right or wrong.

The standard question which was asked for the production test was: What do these pictures show? Practice examples were given:

1. Two pictures of umbrellas; one was for an open umbrella; the other, was not.
Answer: (Examiner said these if the children did not)
The umbrella is open/The umbrella is not open.
2. Two pictures of colored cups were presented; one was blue; the other, was not.
Answer: (Examiner said the answer if the children did not)
(Point to...) This cup is blue.
This cup is not.

For the denial category, the procedure was:

This is a.....
and

This is not a.....
as a new practice example. If the child produced a relevant negative sentence concerning any category, it was scored in that category even if the picture involved had been designed to illustrate another category.

2. Comprehension Test (CT)

There was a situation of choice between two pictures. The same pictures and categories used for the (PT) were used here. Each sentence would be presented with two pictures representing affirmative vs. negative. Again target sentences were one positive and three negative in each category. Except for practice examples, the examiner provided no feedback about right and wrong. The standard question asked for the comprehension testing was:

Which picture shows (pause)... "the target sentence..."
(point to it).

Practice examples:

1. Which picture shows (pause): "There are cookies?" (A pair of two pictures were presented, one with cookies, the other, without.)
Answer was given by pointing to the right picture.
2. Which picture shows (pause):
"The dog is not black."
(A pair of two pictures were presented one with a black dog, the other with a white dog)?
The answer was given by pointing to the right (i.e., corresponding) picture.

The examiner provided the correct answer by pointing if the children did not answer correctly. For the denial category, the standard question was:

Either	"Is this a...?"
Or	"This is a..."
	"This is not a..."

Example:

Either	Is this a book?
Or	This is a book. (yes)
	This is not a book. (scissors)

The answer would be **yes** or **no**. For practice, the examiner provided the correct answer if the children did not.

3. Imitation Test (IT)

Children had to repeat both positive and negative sentences. Sentences were mixed in a way that the positive came before the negative and vice versa. No pairs of pictures were presented. The items of this test were tested after the two above mentioned were tested. The purpose of this test is to see the extent to which imitation (or sometimes referred to as repetition) plays its role in the process of negation acquisition in particular and language acquisition in general.

It should be noted that after examples were given, no feedback about right or wrong was given.

Practice samples given were:

1. No train is on the track.
 2. A train is on the track.
(Children repeated after the investigator after each sentence)
 3. The man is old. (Repeat).
 4. The man is not old. (Repeat).
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III. Results and Conclusions

III.1. Syntactic Utterances in Age Group I

This age group included three subage groups of nine subjects ranging from 2 1/2 years, 3 1/2 years and 4 1/2 years; with MLU from 1.57 to 2.60. The children in this group produced both single-word and syntactic utterances although single-word utterances were the most frequent form of negative expression for 2 1/2 - year - olds. Moreover, syntactic utterances for ages 3 1/2 and 4 1/2 were substantially similar in length as well as structure. Also, two-word utterances were produced by 2 1/2 - year-olds and were structurally similar to the syntactic utterances observed in 3 1/2 and 4 1/2 - year-old children's speech.

Most sentences were two-word sentences (or utterances where the negative element *la* preceded an unmarked or predicate form). Thus, there were mainly two forms of structure where the negative marker was used:

Anaphoric Form: This type is specifically related to a previous statement - and the co-occurring nominal or predicate form offered an alternative affirmative preposition to that statement. The negative form *lā*, thus, is related to either an action or a previous statement produced by another person and, as such, is considered anaphoric. This anaphoric negative form usually occurred in juxtaposition with an element or phrase that functioned as an affirmative alternative to the previous action or statement. For instance,

(M₃ and C₃ are looking at a story - book where mother used to read stories to the child from.)

M ₃	to C ₃ :	"ihkiilna gissit iddiik."	
		"Tell us the story of the rooster"	<i>lāa, maṣbaṣad/</i> (4)
			"No, together"

(M₃ and C₃ read the story at the same time)

It is quite interesting that at this early syntactic stage C₃ did not necessarily include an open juncture between the negative form *lā* and the rest of the sentence (or utterance).

Most of the anaphoric forms indicated rejection of the previous statements. For instance,

(M₁ starting to put dish of food and a spoon away.)

M ₁ to C ₁).	"indubhum?"	<i>lā ṣ , bākul/</i>
	"Should we put them away?"	"No, I'm eating"

(C₁ continues her eating).

The next most frequent reference underlying the anaphoric forms indicated denial. For instance,

(M₅ and C₅ looking at a picture of a woman.)

M₅:

“Maria ikbīri
(Maria is an old
woman)

“la ʔʔa, zalami/
“No, a man”

The rest of the negation categories were less frequent in children’s anaphoric speech in this age group.

Anaphoric structural forms were produced by children with MLU 1.57 to 1.89 and were also observed in all subsequent MLU groups.

Direct Negative Structural Forms: Direct negative forms of structure included two types: First, direct nominal structural forms: these forms accounted for almost half of the two-word syntactic utterances, excluding anaphoric forms (or utterances) in this age group where MLU ranges from 1.59 to 2.60. The negative form *la* preceded a nominal -- or, sometimes an adjective -- form that was obviously being negated. Negation of either the state or condition of a person, object or event was underlying these structures (or utterances). For instance,

(C₂ looks for a picture in an empty photo album)

lā ʔ a sūura/
“No picture”

(C₅ looks in an empty dish)

fiš akil/
“There is no food”

So, direct nominal structures with forms like *la* and sometimes - š were observed. Other direct nominal structures with forms other than *lā* or -š or *miš* were observed also, for example *ṭāar* “flew,” (Child six looks at an empty small cage)

ʔ asfūr ṭāar
“A bird flew”

Most of negative structures included direct nominal structures, whether they had the negative elements *lā* -š or *miš* or another form which specified and thus signaled a negative reference. Those direct nominal structures indicated

either disappearance where the subject negated the state of existence of an object or person that had just disappeared -- for example:

(C₇ hides a small cat toy)

bisi harbat/
"The cat escaped"

Alternately nonpresence is indicated where the subject negated the state of existence of an object or person that was expected to be found in a particular context, for instance:

(C₇ notices that there is
no candy in the box)

fiš hiliw/
"There is no candy"

Nonpresence was also observed where the subject negated the condition or attribute of an object or a person, for instance
(closely related also to denial):

(C₅ was matching pictures
of small boys and girls)

miš iwlad / iwlad/
"Not boys / boys"

As far as disappearance is concerned and in contrast with nonpresence, it indicated a much wider variety of word-order, for example:

"bisi harbat"
"A cat escaped"

"tar ʕasfuur"
"flew bird"

Direct nominal structures also appeared in a relatively small series of utterances which signaled denial and rejection. Children signaled rejection by indicating the disappearance of an unwanted object, for example:

(C₈ given a small orange
instead of a bigger one
he wanted, C₈ throws the
orange through the window)

bara ilburtgāani/
"Out the orange"

Children also signaled negation of the identity of a state, person, object or attribute where the negative relationship has the negative forms directly related to either a nominal or even adjectival form. In other words, all denial utterances that were syntactic could be recognized as direct negative relationships, for example:

(M₇ pointing to C₇'s hair):

“sa^ˤ ʔrak ʔawiil?”
 “Is your hair long?”

laʕʕa, gasiir/
 “no, short”

Second was direct predicate structure where the negative elements lá, -š or miš either preceded or suffixed to verb forms that were clearly being negated. The reference underlying such types of utterances (or structures) was the negation of action. Examples of this are:

(C₆ unable to see through
 camera lenses)

miš bašúuf/
 “not see”

(C₉ unable to reach a
 pencil on a high desk)

bagdariš/
 “I can’t”

Structurally, these utterances appeared to be closer to negation of ability. Finally, some of 3 1/2 - and 4 1/2 - year - olds produced some three -, and sometimes, four-word structures. These utterances were far less frequent than two-word utterances. But the existence of such structures seemed to be early attempts at producing the complete structures characteristic of older children, i.e., of six and eight years of age. In short, a transitional period for these 3 1/2 - 4 1/2 - year - olds may be underway.

III.2. Conclusions

with the appearance of two-word syntactic utterances, the negative element lá “no” was either anaphoric or was juxtaposed with substantive form in direct nominal, direct predicate, and indirect predicate relation. Nonoccurrence and rejection categories indicated negation of an action and involved either direct predicate or indirect predicate structural relationship. Thus, the negative elements lá or miš preceded a verb or predicate object. A semantic-syntactic analysis of this age group of children 2 1/2 years and 4 1/2 years, thus, shows that two-word utterances were produced by the children of this group. As is shown in Tables 1, 2 and 3 it is clear that children in the younger age group could at least occasionally deal with the following kinds of negation: anaphoric negative form and direct negative structural form.

Table 1. Spontaneous Speech: Negation Semantic Categories Used (+) and Not Used (-) by Children (C) and Mothers (M).

No.	Type of Item	Age 2½ Years			Age 3½ Years			Age 4½ Years			Age 6 Years			Age 8 Years			Total Frequency of Negation Semantic Categories
		C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈	C ₉	C ₁₀	C ₁₁	C ₁₂	C ₁₃	C ₁₄	C ₁₅	
1	Color Contrast	+(2)	--	+(2)	+(1)	+(2)	+(2)	+(1)	+(3)	+(1)	+(5)	+(3)	+(2)	+(5)	+(5)	+(5)	42
2	Nonexistence	+(4)	+(5)	+(4)	+(4)	+(4)	+(3)	+(2)	+(3)	+(2)	+(4)	+(4)	+(2)	+(6)	+(4)	+(7)	58
3	Cessation & Disappearance	--	--	--	+(1)	--	+(2)	+(1)	+(2)	+(2)	+(4)	+(3)	+(3)	+(5)	+(6)	+(4)	33
4	Location	+(3)	+(4)	+(1)	+(3)	+(4)	+(4)	+(1)	+(3)	+(2)	+(4)	+(4)	+(3)	+(9)	+(4)	+(3)	52
5	Name Attribute	--	+(2)	+(2)	+(4)	+(2)	+(2)	+(1)	+(2)	+(2)	+(3)	+(3)	+(3)	+(10)	+(7)	+(8)	53
6	Action of Subject	+(2)	+(1)	+(2)	+(2)	+(3)	+(4)	+(3)	+(1)	+(2)	+(5)	+(4)	+(3)	+(2)	+(3)	+(5)	47
7	Prohibition	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8	Rejection	+(4)	+(3)	+(3)	+(5)	+(4)	+(5)	+(3)	+(3)	+(4)	+(2)	+(3)	+(5)	+(7)	+(5)	+(5)	65
9	Ability	+(1)	+(1)	+(1)	+(1)	+(1)	+(2)	+(1)	+(2)	+(1)	+(3)	+(2)	+(4)	+(4)	+(4)	+(4)	32
10	Split Negation	--	--	+(1)	--	--	+(1)	+(5)	+(1)	+(1)	+(3)	--	+(4)	+(4)	+(5)	+(7)	32
11	Denial	+(3)	+(3)	+(4)	+(4)	+(2)	+(4)	+(4)	+(2)	+(3)	+(5)	+(2)	+(3)	+(7)	+(5)	+(6)	57
12	Double Negation	--	+(1)	--	--	--	--	--	--	+(2)	--	+(1)	+(1)	+(1)	+(1)	+(2)	9
13	Total Scores	(19)	(20)	(20)	(27)	(22)	(29)	(26)	(22)	(24)	(38)	(29)	(33)	(65)	(50)	(56)	480
14	Total Categories Used (+)	7	8	9	9	8	10	10	10	11	10	10	11	11	12	11	

Table 1. Continued.

No.	Type of Item	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀	M ₁₁	M ₁₂	M ₁₃	M ₁₄	M ₁₅	Total Frequency of Forms
1	Color Contrast	+(2)	+(1)	+(4)	+(2)	+(1)	+(2)	+(2)	+(1)	+(4)	+(3)	+(2)	+(2)	+(7)	+(5)	+(4)	44
2	Nonexistence	+(5)	+(5)	+(5)	+(4)	+(5)	+(6)	+(7)	+(4)	+(5)	+(6)	+(8)	+(2)	+(4)	+(5)	+(4)	75
3	Ceasation & Disappearance	+(1)	+(2)	--	+(1)	+(2)	+(3)	+(4)	+(3)	+(2)	+(3)	+(3)	+(2)	+(5)	+(3)	+(3)	37
4	Location	+(4)	+(3)	+(6)	+(4)	+(4)	+(6)	+(3)	+(1)	+(3)	+(4)	+(3)	+(4)	+(8)	+(6)	+(5)	66
5	Name Attribute	+(2)	+(4)	+(5)	+(6)	+(4)	+(6)	+(4)	+(4)	+(2)	+(2)	+(3)	+(3)	+(6)	+(7)	+(5)	63
6	Action of Subject	+(3)	+(3)	+(4)	+(6)	+(5)	+(5)	+(4)	+(2)	+(3)	+(4)	+(4)	+(3)	+(5)	+(4)	+(3)	56
7	Prohibition	+(2)	+(5)	+(2)	+(4)	+(3)	+(1)	+(2)	+(4)	+(2)	+(1)	--	+(2)	+(4)	+(1)	--	35
8	Rejection	+(1)	+(4)	+(2)	+(3)	+(4)	+(5)	+(6)	+(4)	+(3)	+(2)	+(2)	+(3)	+(5)	+(3)	+(4)	51
9	Ability	+(1)	+(3)	+(1)	+(2)	+(3)	+(2)	+(2)	+(1)	+(3)	+(4)	+(2)	+(4)	+(6)	+(5)	+(5)	46
10	Split Negation	+(1)	+(1)	+(2)	+(2)	+(1)	+(1)	--	+(1)	+(2)	+(2)	+(3)	+(2)	+(4)	+(5)	+(2)	29
11	Denial	+(2)	+(4)	+(1)	+(2)	+(2)	+(1)	+(4)	+(2)	+(4)	+(3)	+(2)	+(2)	+(4)	+(3)	+(3)	41
12	Double Negation	--	+(2)	--	+(1)	+(1)	+(2)	+(1)	--	+(2)	+(1)	+(3)	+(2)	+(3)	+(4)	+(2)	24
13	Total Scores	(24)	(37)	(32)	(37)	(35)	(43)	(35)	(31)	(35)	(35)	(30)	(31)	(63)	(51)	(40)	567
14	Total Categories (of 12) Used (+)	11	12	10	12	12	12	12	11	12	12	11	12	12	12	11	

Table 2. Continued.

Forme	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉	M ₁₀	M ₁₁	M ₁₂	M ₁₃	M ₁₄	M ₁₅	Total Frequency of Forms
La (La) (La a) (La i) (La ?)	+(6)	+(5)	+(4)	+(7)	+(2)	+(3)	+(5)	+(5)	+(4)	+(4)	+(3)	+(5)	+(6)	+(8)	+(5)	72
Ma	+(2)	+(6)	+(1)	+(4)	+(4)	+(4)	+(9)	+(7)	+(2)	+(4)	+(4)	+(4)	+(7)	+(3)	+(5)	66
- a	+(2)	+(3)	+(2)	+(1)	+(5)	+(7)	+(3)	+(2)	+(6)	+(5)	+(2)	+(3)	+(8)	+(3)	+(5)	57
Mis	+(9)	+(11)	+(13)	+(16)	+(11)	+(11)	+(8)	+(11)	+(15)	+(9)	+(13)	+(8)	+(18)	+(15)	+(10)	178
La (Imperative)	--	+(1)	+(2)	--	--	+(3)	+(1)	+(1)	--	+(1)	--	--	--	--	--	9
Ma	--	+(1)	+(1)	+(1)	+(1)	+(4)	+(2)	+(1)	+(1)	+(1)	+(4)	+(1)	+(5)	+(2)	+(6)	31
Mis ... a	+(4)	+(7)	+(5)	+(7)	+(12)	+(5)	+(6)	+(3)	+(4)	+(6)	+(4)	+(7)	+(12)	+(12)	+(5)	99
Mis? (Tag) (Mis helki) (Mis sabih)	+(2)	+(3)	+(4)	+(1)	--	+(3)	+(2)	+(1)	--	+(4)	--	+(2)	+(5)	+(6)	+(4)	39
La ... Ma	--	--	--	--	--	+(3)	+(1)	--	+(3)	+(1)	--	+(1)	+(2)	+(2)	--	13
Total Frequency (of 9)	(24)	(37)	(32)	(37)	(35)	(43)	(35)	(33)	(35)	(35)	(30)	(31)	(63)	(51)	(40)	564
Total Forms (of 9) Used (+)	6	8	8	7	6	9	9	8	7	9	6	8	8	8	7	

Table 3. Spontaneous Speech MLU/Children and Mothers.

Age 2 1/2 Years			Age 3 1/2 Years			Age 4 1/2 Years		
C ₁	C ₂	C ₃	C ₄	C ₅	C ₆	C ₇	C ₈	C ₉
1.89	1.59	1.57	2.56	2.12	2.45	2.60	2.50	2.56

M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	M ₉

4.49	4.67	4.93	4.45	4.39	4.29	5.29	5.04	4.98

Age 6 Years			Age 8 Years		
C ₁₀	C ₁₁	C ₁₂	C ₁₃	C ₁₄	C ₁₅
2.60	2.71	2.59	3.00	3.04	3.09

M ₁₀	M ₁₁	M ₁₂	M ₁₃	M ₁₄	M ₁₅

5.76	4.95	5.07	4.61	4.89	4.60

III.3. Syntactic Utterances in Age Group II

This age group included two subage groups of six subjects ranging from six years old to eight years old, with MLU between 2.59 and 3.09. In this age group occurred phase two in the linguistic development of the negation system. That is, there were some new acquisitions or development modifications in the negative syntactic structures in the speech of this age group as compared with the younger children. For example, the sentence subject was there; the negated predicate was more complete structurally, subject-verb-object constituents were observed in certain utterances; also pronominal forms had been used by this age group subjects instead of nominal ones. Still, one-word utterances such as "¡a'" remain the most frequent form of negation in the speech of this age group.

In the semantic-syntactic analysis of stage two utterances in relation to the context in which they were produced, three negative structures were observed. These are anaphoric, nominal and predicate negation. Anaphoric utterances were also produced by the children of this group and were semantically and syntactically similar to the anaphoric structures used by the subjects of the first age group, i.e., at stage one. However, in some cases the affirmative structure here consists of subject-verb-complement constructions. More interesting is that those anaphoric structures indicated rejection most frequently. The next most frequent category to be signaled by these utterances is denial, while the rest of the negative semantic categories generally constituted only a few examples. Nominal structures were also observed in the speech of the children of this age group. These nominal utterances signaled negation of the state of existence of an object or a person, for example:

huwwi miš hawn/
 "He is not around"

But most of the nominal forms indicated either disappearance or denial. For example, disappearance:

(C₁₃ hides a book in his bag)

fišši iktab/
 "There is no book"

Denial:

(C₁₂ just asked his mother to demonstrate a move of dance.
 M₁₂: ta ʕ bāani / "Tired /"

la ʕʕ a, inti miš ta ʕ bāani/
 "No, you are not tired"

Sentence-subjects were expressed in almost every utterance by this group. There was also the use of both noun forms and pronoun forms as subjects. There was also a considerable variation in the form of the negative element. la (ʕʕ) a was used but miš, -š, ma ... š were also used quite often. What is more interesting is that "miš" emerged in structures indicating denial very often.

On the other hand, predicate structures were observed specifying:

a) negation of an action upon an object, e.g.,

"mabagdaris aftaḥu"
 "I can't open it"

b) negation of wanting something; for example;

“mabidiiṣ ilgalam”

“I don’t want the pen”

Most of the predicate utterances indicated either rejection or nonoccurrence. Examples:

Rejection:

(M₁₂ gives C₁₂ an apple,
but he refuses to take it)

ana bīdiiṣ tuffaāḥa/
“I don’t want an apple”

Nonoccurrence:

(C₁₅ tries to reach a
photo album at the top
of the dresser)

ana bagdariṣ̌ aṭūulu
“I can’t reach it”

(Structurally, these nonoccurrence utterances seemed to be closer to ability/inability category). In most of the predicate utterances the pronominal *ana* “I” was frequently used, thus specifying the child as the actor-agent. Another observation is that all verbs in predicate structures were in the present tense form while most utterances had verb-object constructions. Also observed was the increase in the variation of the form of the negative marker; for example, *bīdiiṣ* “don’t want” and *bagdariṣ̌*, “can’t”.

III.4. Conclusions

A semantic-syntactic analysis of negative utterances in both main age groups suggested that utterances might be classified into two basic developmental stages on the basis of complexity of structure and underlying reference. Negative utterances characteristic of stage two were structurally more complete than stage one utterances and were observed in the second group which included children between the ages of six and eight. Children continued signaling negation of action upon an object or negation of wanting something. Observed also in this older group was the increased emergence of sentence-subjects in predicate utterances. Thus, in addition to the elements of negation, both predicate and nominal structures included sentence-subjects, verbs and predicate complements.

In combination with Tables 1, 2, and 3 and the examples presented in this section, it is clear that children in the older age group could at least occasionally deal with the following kinds of negation: anaphoric, nominal and predicate negation. As the children of the younger age group, the children of this older group frequently used *lā*, a one-word utterance. Also, the two age groups similarity of anaphoric negative utterances used by both age groups,

the affirmative utterances of the older group only regularly consisted of subject-verb-complement. Therefore, the shift in structure is very important.

IV. Theoretical Implications/Spontaneous Speech

IV.1. Children's Syntactic Utterances: Stage I

(MLU: 1.59-2.0) (Age: 2 1/2 - 3 1/2)

Generally speaking, all notions of negation could be classified into three main references: 1) Negation of Action, 2) Negation of Intention, 3) Negation of State. By Stage I, however, there was almost equal expression of negation of state versus negation of action. It seems that different salient components of the speech events were necessary for coding these underlying references of negation, syntactically. It is also suggested that the child establishes an awareness of objects by physically interacting with them. The child, then, develops a mental schema of the object as a unique entity with an existence which is separate from his own actions. It should be pointed out that this is a later developmental concept; the fact that children's utterances at this stage signaled these underlying references with almost equal frequency suggests that children achieved this more mature mental schema of the objects.

At this stage, too, certain negative notions of actions and intentions signaled rejection. Such notions related to the rejection of wanting or receiving an object of action. Indirect negative structures, for example, occurred with rejection utterances. For example, a child said *la? a ḥaliib* "no milk" when he did not want an offered glass of milk. The salient component which was not specified was that of the speech event, i.e., the stage of wanting the milk. This component was related to the negative function form.

As far as the frequency of the main negative semantic categories at this stage is concerned, results in Table I signal the order to be rejection, nonexistence and, finally, denial. Thus, most frequently expressed by syntactic utterances at this stage was rejection. Within the context of speech events, negation of wanting an object or a thing should be recognized as an early cognitive acquisition that follows coding negation of rejection syntactically. It is also suggested that nonexistence is also one of the easiest structures to master because of its linguistic simplicity and perhaps its cognitive accessibility. On the other hand, denial-constraining factors seemed to be inherent within the speech event context. It seemed that the child had to perceive the referent underlying a former or previous statement. In this respect, McNeill and McNeill (1967, p.8) indicated it to be necessary to hold two questions in mind: "the question or statement interpreted as false, and denial of that statement."

IV.2. Children's Syntactic Utterances: Stage II

(MLU: 2.0-3.9) (Age: 3 1/2-8)

Later in their language development (i.e., children at MLU (2.0-3.0)), it was the case that almost all negative notions expressed concerned negation of actions, in-

tentions and states. At this stage children employed additional constituents in the surface structures of their negative utterances.

It was at age 3 1/2 and 4 1/2 years (MLU: 2.0 - 2.5) when children's utterances indicating negation of actions and intentions began to frequently include both verb and object constituents, apparently, in the surface structure. Generally speaking, sentence subject remained practically unemployed. It is due to this absence of the sentence-subject that the point could be made that there was now a sort of connection between the negative form and the predicate of the sentence, i.e., verb and object. For example,

mābtokil tuffāah
 "not - eat-apple"

Similar findings were reported in studies of language development in English, French, German and Italian. Reference to this point was made by Lois Bloom (1970) when she remarked that the negative element occurred prior to the structure over which it had immediate effect, i.e., in prepredicate position. This was the case for Jordanian Arabic-speaking children. The only conflict with Bloom's prepredicate position of negation is that in Arabic there is an exceptional case which is due to the syntax of the language in question. The exception is that the negation element -š is suffixed to the verb instead of occurring in pre-verb position. But by and large at this age level, Arabic negative elements just occurred in prepredicate position. Even with -š it could be argued that it is a part of a split-negation constituting mā ... š "not". So in mā... š case, mā comes before the verb and -s is suffixed to the verb, e.g., **ma biš-rabiš** "(He) is not drinking."

Later in their language development with children at ages six and eight years with MLU's between (2.49-3.9), adult-like negative constructions within full and complete sentence structures could be noticed. Children seemed to employ all negative forms and categories, although they might still have some trouble with one form or another as seen in Tables 1 and 2. In particular, notice that children had some difficulty with the **lā** (imperative), **lāa... wala** and **mā ... š** forms and the prohibition, double negation and cessation categories.

Stokes (1976) pointed out in her study of English-speaking children to the fact that negation often operates upon the predicate phrase in adult grammar, and she suggested this feature may account in part for its emergence in early syntactic structures. The point Stokes tried to make is that when the child hears adult negative utterances, these utterances include the negative predicate structures. When the child hears this sentence within context, **ma tilmisiš ilmakwa** "Don't touch the iron," he or she is given the chance to concentrate on the negative-verb-object construction. This is because this construction stands for the most significant relationship between projecting (or say salient) features in the event in question, that is, the prohibition on acting upon something.

V. Suggestions for Future Research

Despite the attempt to investigate the negative categories existing in the lan-

guage system, it is impossible to cover them all. For instance, prohibition did not show up in children's spontaneous speech, except in the form of rejection (i.e., stereotype rejection.) So, it may be a good idea to investigate more vigorously the prohibition category. More analyses into the form of denied utterances may offer insights into the processes underlying children's ability to indicate denial. In the present study, denial of questions was more frequent than denial of statements, for instance. In addition, further investigation of such underlying references as negation of action, state, or intention and their evolving structures (i.e., nominal and predicate) may offer insights into understanding the acquisition of the negation process from a linguistic perspective.

Appendix A

Table A.1. Category Items Tested in Production, Comprehension and Imitation Tests

Item #	- or +	Category	Sentence
1	-	Color Contrast	Point to the cup that is not red.
2	-	Complex Arabic Form	The boy is not sitting.
3	+	Nonexistence	There are balls.
4	-	Action of Subject	The boy is not standing.
5	-	Attribute	The dog is not big.
6	+	Location	The pen is under the chair
7	-	Cessation	The cricket is no longer around.
8	+	Rejection	The boy says: "I want to hold the glasses."
9	-	Double Neg.	There is neither a bucket nor a plane.
10	-	Color Contrast	Point to the cup that is not green.
11	-	Ability	He cannot write.
12	+	Cessation & Disappearance	The boy is watching the T.V. show.
13	-	Nonexistence	There are no cookies.
14	-	Rejection	The girl says: "I won't read the book."
15	+	Action of Subject	The boy is sleeping.
16	-	Location	The bird is in the cage.
17	-	Attribute	The cat has no eyes.
18	+	Color Contrast	Point to the cup that is brown.
19	-	Rejection	The boy does not want to be hugged.
20	-	Prohibition	You better not touch the flower.
21	-	Double Negative	The boy has neither a dog nor a cat.
22	-	Complex Arabic Form	The girl's eyes are not open.
Denial			
23	-	Denial	This is not a boy.
24	+	Denial	This is a dog.
25	-	Denial	This is not a balloon.
26	+	Denial	This is a box.

Table A.2. Category Items Tested in Production, Comprehension and Imitation Tests

Item #	- or +	Category	Sentence
27	-	Complex Arabic Form	She has not yet begun reading.
28	-	Cessation	The plane is not working any-more.
29	+	Ability	The old woman can run.
30	-	Prohibition	Don't push the girl anymore.
31	-	Location	The cat is not on the chair.
32	+	Attribute	The man is old.
33	-	Double Negative	The umbrella is not open, is it?
34	-	Color Contrast	Point to the cup that is not blue.
35	-	Location	The book is not on the table.
36	-	Action of Subject	The woman is not holding a book.
37	+	Complex Arabic Form	There is food and a spoon.
38	-	Ability	He cannot see the ball.
39	-	Cessation	The cat is not moving anymore.
40	-	Prohibition	You should not eat even one bite.
41	-	Attribute	The pencil is not broken.
42	+	Double Negative	There is rain and an umbrella.
43	-	Ability	The boy cannot kick the ball.
44	-	Nonexistence	No train is on the track.
45	+	Prohibition	Finish the milk.
46	-	Rejection	The girl does not want her hair combed.
47	-	Action of Subject	The boy is not laughing.
48	-	Nonexistence	The candles won't go out.
Denial			
49	-	Denial	This is a girl, isn't it?
50	-	Denial	This is not a pencil, is it?
51	+	Denial	This is a cup.
52	-	Denial	This is not a book.

Notes

(1) MLU is calculated as:
$$\frac{\text{the number of morphemes}}{\text{the number of utterances}}$$

(2) The negation system in Arabic used here is completely based on and adapted from the works of O'Leary (1979) and Mitchel (1956). Though most of the examples and notes were drawn from Mitchel (1956).

(3) The following phonetic symbols have been tackled; and here is a description of each:

- |q| — a voiceless uvular stop.
- |ʔ| — a glottal stop.

- | ʕ | — a voiced, pharyngeal fricative.
- | h | — a voiceless, pharyngeal fricative.
- | ʕ̣ | — a voiceless, alveopalatal fricative.
- | ʁ | — a voiced, back velar fricative.
- | ʕ̣̌ | — a voiced, alveopalatal fricative.
- | t̪ | — a voiceless dental stop, velarized.
- | s̪ | — a voiceless dental spirant, velarized.
- | d̪ | — a voiced interdental spirant, velarized.
- | x̪ | — a voiceless velar fricative.
- | ʁ̪ | — a voiced interdental fricative.
- | ʕ̪ | — a voiced pharyngealized interdental fricative.

(4) M refers to Mother, C refers to Child.

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