

Substitution in Child Speech

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المخلص

تبحث هذه الدراسة في إحدى الظواهر الصوتية التي يستخدمها الأطفال وهي الإبدال في حديث الأطفال بعمر سنتين الذين يتحدثون الموصلية العربية. يستخدم الأطفال هذه العملية كغيرها من الظواهر الصوتية كالإقلاب والمماثلة بين الأصوات الساكنة لتسهيل حديثهم. يحدث التغير في جميع صفات الأصوات الساكنة وهي الجهر ومخارج الأصوات ونوعها فضلا عن التفخيم. ويحدث الإبدال في البداية والوسط والنهاية.

Abstract

This study investigates one of the phonological processes used by children which is substitution in the speech of a two – year – old child speaking Mosuli Arabic. It is used by children as other processes such as Metathesis, Consonant harmony and so on to simplify their speech. Substitution occurs in all consonantal features which are voicing, place of articulation, manner of articulation and tafxim. It occurs initially, medially and finally.

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*Key of symbols used in the paper***A. Consonants****Mosuli Arabic Consonants**

/ʔ/	as in:	أسود	/ʔaswad/	Black
/b/	as in:	بطاطا	/bata:ta/	Potato
/p/	as in:	باتريات	/pa:trijjat/	Batteries
/t/	as in:	تمر	/tamir/	Date
/θ/	as in:	ثلاثة	/θala:θa/	Three
/dʒ/	as in:	جنة	/dʒanna/	Paradise
/tʃ/	as in:	جاي	/tʃa:j/	Tea
/h/	as in:	حبر	/hibi /	Ink
/x/	as in:	خبز	/xibiz/	Bread
/d/	as in:	دلال	/dala:l/	A female name
/ʔ/	as in:	ذكي	/ʔaki/	Intelligent
/r/	as in:	رياض	/rija:ʔ/	A male name
/z/	as in:	زواج	/zawa:dʒ/	Marriage
/s/	as in:	سارة	/sa:ra/	A female name
/ʃ/	as in:	شارع	/ʃa:riʕ/	Street
/s/	as in:	صمون	/sammu:n/	Kind of bread
/t/	as in:	طماطة	/tama:ta/	Tomato
/ʔ/	as in:	ظافر	/ʔa:fir/	A male name
/ʕ/	as in:	عسل	/ʕasal/	Honey
/ /	as in:	غالي	/ a:li/	Expensive
/f/	as in:	فادي	/fa:di/	A male name
/q/	as in:	قلم	/qalam/	Pencil
/k/	as in:	كتاب	/kita:b/	Book

/g/	as in:	كراج	/gara:d3/	Garage
/l/	as in:	لهانة	/laha:na/	Cabbage
/m/	as in:	مدرسي	/madrasi/	School
/n/	as in:	ناغ	/na: /	Fire
/h/	as in:	هذا	/ha:ʔa/	This
/w/	as in:	ولد	/walad/	Boy
/j/	as in:	يلعب	/jilʔab/	Plays (for sing. Masc.)

A. Vowels

Mosuli Arabic Vowels

Short Vowels

1-	/i/	as in:	سن	/sin/	Tooth
2-	/a/	as in:	ولد	/walad/	Boy
3-	/u/	as in:	أشنُ	/ʔaʃnu/	What?

Long Vowels

1-	/i:/	as in:	فيل	/fi:l/	Elephant
2-	/e:/	as in:	كيك	/ke:k/	Cake
3-	/a:/	as in:	قام	/qa:m/	Stood (for sing. Masc.)
4-	/u:/	as in:	بوم	/bu:m/	Owl
5-	/o:/	as in:	فوق	/fo:q/	On

1. Introduction:

Substitution, as a phonological process, has been studied by many phonologists (e.g.: Ingram, 1978: 67; Lock, 1980: 201; Nwokah,

1986; Razook, 1989: 66ff; Fikkert, N. D.: 7; Kenstowicz, N. D.: 6f, and Saymour, 2004: 62). It refers to the process of replacing one sound by another without reference to neighbouring sounds (see Ingram, 1976: 39; Grunwell, 1981: 45; Crystal, 1994: 335 and Walsh, 2007: 1). Substitution in Arabic has been dealt with by (Wafi: 1971: 161 f; Al-Samarrai, 1981: 110 ff; Al-Hamdani, 1982: 167 and Al-Atjja, 1983: 97 ff).

Children usually acquire [f] before [θ] so they substitute [θ] for [f] in the word "three" [θri:] which becomes [fri:]. They acquire front consonants such as [p] and [t] before back consonants such as [k]; so they say [ta] instead of [kar] (see Hyman, 1975: 16f). The most difficult sounds for children speaking English are fricatives and affricates. The children avoid these sounds even if they acquire one or more of them by substitution (see Ingram, 1978: 64 ff).

2. The Aim and Hypotheses:

This study aims at exposing one of the phonological processes used to simplify children speech. This process is substitution.

The following hypotheses will be tested in this study:

- 1.*** Substitution can occur in all consonantal features which are voicing, place of articulation, manner of articulation, and tafxim.
- 2.*** It occurs initially, medially and finally.
- 3.*** Sometimes a word may consist of more than one type of substitution.

4. Fricatives are the most difficult sounds to acquire in Arabic.

3- Data Collection and Methodology

The data needed for this study have been collected from the speech of five children of the researcher's relatives, two of them are females and the others are males. Their dialect is Mosuli Arabic*. We have collected a number of words which are used by those children who are at the age of two.

We have analyzed these words according to the consonantal features (see the following table). The consonant phonemic system of Mosuli Arabic contains a set of 30 phonemes where most of them are found in standard Arabic except /d/, /g/, /p/ and /tʃ/ (see Rahim and Farjo, 1985). The sessions held were direct and the children who were tested are normal. We observed them for more than two months and noticed their pronunciations carefully and transcribed their utterances phonemically.

4. Analysis and Findings:

Consonantal features can be divided into voicing, place of articulation, manner of articulation (see Roach, 2001: 20ff) and tafxim

* Mosuli dialect: It is a dialect among many dialects in Iraq, it is spoken in Northern Iraq, which stands out from other Iraqi dialects in many crucial respects: phonological, lexical and grammatical. (see Sa'eed, 2006: 69f).

which plays an important role in Arabic phonology (see Rahim, 1980: 187 ff).

4.1. Voicing:

In Mosuli Arabic both voiced ~ voiceless and voiceless ~ voiced substitutions exist.

4.1.1. Voiced ~ Voiceless:

1. z ~ s

/bazzu:n/ ~ /passu:n/	(cat)	بسون~بزون
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2. ? ~ f

/ha:ki?/ ~ /ha:tif/	(in a like manner)	هتف~هكذ
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3. z ~ ʃ

/zu:zu:/ ~ /ʃu:zu:/	(a female name)	شوزو~زوزو
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4. ʔ ~ ?

/ʔamma:r/ ~ /?amma:r/	(a male name)	أمار~عمار
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5. m ~ ?

/minu:/ ~ /?inu:/	(who)	أنو~منو
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4.1.2. Voiceless ~ Voiced

6. h ~ ʔ

/ħasan/ ~ /ʔasan/	(a male name)	عسن~حسن
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4.2. Place of Articulation:

There are sixteen types of substitution of place of articulation which are:

4.2.1. Bilabial ~ Labio – dental

7. p ~ f

/pa:trijja:t/ ~ /fa:tlijja:t/ (batteries) فاتليات~باتريات

4.2.2. Interdental ~ Labio – dental

8. θ ~ f

/kθi: / ~ /kfi: / (very much) كفيل~كثير

/θa:ʔir/ ~ /fa:ʔir/ (a male name) فائر~ثائر

4.2.3. Interdental ~ Velar

9. ʔ ~ g

/be:ʔa/ ~ /be:ga/ (egg) بيگة~بيضة

4.2.4. Denti-alveolar ~ Glottal

10. t ~ ʔ

/tiffa:h/ ~ /ʔiffa:h/ (apple) افاح~تفاح

4.2.5. Denti-alveolar ~ Interdental

11. z ~ ʔ

/xibiz/ ~ /ʔibiʔ/ (bread) أبذ~خبز

12. s ~ θ

/ka:sa/ ~ /ta:θa/ (bowl) تائة~كاسة

4.2.6. Denti-alveolar ~ Glottal

13. s ~ ʔ

/sammu:n/ ~ /ʔammu:n/ (kind of bread) أمون~صمون

4.2.7. Palato - alveolar ~ Denti-alveolar

14. d₃ ~ d

/tid₃e:n/ ~ /tide:n/ (are you coming) تدين~تجين

/wid₃a:n/ ~ /widʔa:n/ (sick) ودعان~وجعان

15. ʃ ~ t

/ʔaʃnu ha:ʔa/ ~ /ʔatnu ʔa:da:/ (what is this) اتنُ آدا~أشنُ هذا

16. tʃ ~ t

/tʃa:j/ ~ /ta:j/ (tea) تاي~جاي

4.2.8. Palatal ~ Glottal

17. j ~ ʔ

/jiʃti il/ ~ /ʔiʃti il/ (works) اشتغل~يشتغل
(for masc. sing.)

4.2.9. Velar ~ Denti-alveolar

18. k ~ t

/ka:sa/ ~ /ta:Θa/ (bowl) تائة~كاسة

/kahrab/ ~ /taʔlab/ (electricity) تالب~كهرب

4.2.10. Velar ~ Uvular

19. k ~ q

/ke:ka/ ~ /qe:qa/ (cake) قيققة~كيكة

4.2.11. Uvular ~ Denti-alveolar

20. q ~ t

/qalam/ ~ /talam/ (pencil) تلم~قلم

4.2.12. Velar ~ Denti-alveolar

21. ~ n

/da o:h/ ~ /dano:h/ (I am leaving) دنوح~دغوح

4.2.13. Velar ~ Glottal

22. x ~ ?

/xibiz/ ~ /ʔibiʔ/ (bread) ابذ~خبز

4.2.14. Uvular ~ Velar

23. q ~ k

/fo:q/ ~ /to:k/ (on) توك~فوق

4.2.15. *Uvular ~ Glottal*

24. q ~ ?

/qu:m/ ~ /ʔu:m/ (stand up) اوم~قوم
(for imp. masc. sing.)

4.2.16. *Pharyngeal ~ Glottal*

25. ʕ ~ ?

/ʕamma:r/ ~ /ʔamma:r/ (a male name) أمار~عمار

26. ħ ~ ?

/ħisa:n/ ~ /ʔisa:n/ (horse) إصان~حصان

27. ħ ~ h

/ħajra:n/ ~ /hajra:n/ (bewildered) هيران~حيران

4.3. *Manner of Articulation*

There are nine types of substitution of manner of articulation which are:

4.3.1. *Plosive ~ Fricative*

28. p ~ f

/pa:trijja:t/ ~ /fa:tljja:t/ (batteries) فاتليات~باتريات

4.3.2. *Fricative ~ Plosive*

29. z ~ d

/mo:z/ ~ /mo:d/ (Pl. banana) مود ~ موز

/zara:fa/ ~ /dala:fa/ (giraffe) دلافة ~ زرافة

/ʔanzal/ ~ /ʔandal/ (go down) اندل ~ انزل

30. ʔ ~ d

/ʔi:b/ ~ /di:b/ (wolf) ديب ~ ذيب

31. ʃ ~ t

/ʔaʃnu ha:ʔa/ ~ /ʔatnu ʔa:da/ (what is this) اتنُ ادا ~ اشنُ هذا

32. s ~ t

/ja:si:n/ ~ /ja:ti:n/ (a male name) ياتين ~ ياسين

33. s ~ t

/so:sad3/ ~ /to:tad3/ (sausage) توتج ~ صوصج

/sammu:n/ ~ /ʔammu:m/ (kind of bread) امون ~ صمون

34. ʔ ~ g

/be:ʔa/ ~ /be:ga/ (egg) بيضة ~ بيگة

4.3.3. *Fricative ~ Nasal*

35. ~ n

/da o:h/ ~ /dano:h/ (I'm leaving) دنوح ~ دغوح

4.3.4. Affricate ~ Plosive

36. dʒ ~ d

/widʒʔa:n/ ~ /widʔa:n/	(sick)	ودعان ~ وجعان
/ idʒil/ ~ / idil/	(foot)	غدل ~ غجل

37. tʃ ~ t

/tʃa:j/ ~ /ta:j/	(tea)	تاي ~ جاي
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4.3.5. Nasal ~ Plosive

38. m ~ ʔ

/minu:/ ~ /ʔinu:/	(who)	أنو ~ منو
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4.3.6. Lateral ~ Nasal

39. l ~ n

/le:ʃ/ ~ /ne:ʃ/	(why)	نیش ~ لیش
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4.3.7. Tap ~ Lateral

40. r ~ l

/zara:fa/ ~ /dala:fa/	(giraffe)	دلافة ~ زرافة
/sajja:ra/ ~ /sajja:la/	(car)	سيالة ~ سيارة
/pa:trijja:t/ ~ /fa:tlijja:t/	(batteries)	فاتليات ~ باتريات

4.3.8. Glide ~ Plosive

41. j ~ ʔ

/jiʃti il/ ~ /ʔiʃti il/	(works)	إشتغل ~ يشغل (for masc. sing.)
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4.4. Tafxim

There is only one type of substitution of tafxim, which is:-

4.4.1. Mufaxxam ~ Non-Mufaxxam

42. s ~ t

/so:sad3/ ~ /tu:tad3/	(sausage)	توتج ~ صوصج
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43. s ~ ?

/sammu:n/ ~ /ʔammu:n/	(kind of bread)	أمون ~ صمون
-----------------------	-----------------	-------------

44. t ~ t

/tajja:ra/ ~ /tajja:la/	(plane)	تياالة ~ طيارة
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/ʔinti:ni:/ ~ /inti:ni:/	(give me)	إنتيني ~ إنطيني
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(for imp. sing.)

Table (1): Mosuli Arabic Consonants

(adopted from Sa'eed, 2006: 72 with modifications and some additions concerning Mufaxxam and Non-

Mufaxxam

Note: The symbol on the left in every column is voiceless while the symbol on the right is voiced.

Place Manner		Bilabial	Labio- dental	Inter Dental	Denti- alveolar	Palato alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	Non-mufaxxam	p b			l d			k g	q		ʔ
	Mufaxxam				t						
Fricative	Non-mufaxxam		f	ʔ ɖ	s z	ʃ		x		ħ ʕ	h
	Mufaxxam			ð	s						
Affricate						tʃ dʒ					
Nasal		m			n						
Lateral					l						
Tap						r					
Glide		w					j				

** /d/ (a velarized voiced alveolar plosive) which has merged with the velarized dental fricative /ð/, e.g.: "abyadr" /ʔabyad/;
/ʔabyað/ (white) (see Rahim and Farjo, 1985).

Table (2): Substitution in Voicing
Table of Results

<i>Voicing</i>	<i>Subjects</i>		<i>H</i>		<i>Z</i>		<i>N</i>		<i>M1</i>		<i>M2</i>	
	<i>Age</i>		<i>Male</i>	<i>2 years and 8 months</i>	<i>Male</i>	<i>2 years and 7 months</i>	<i>Male</i>	<i>2 years and 6 months</i>	<i>Female</i>	<i>2 years and 5 months</i>	<i>Female</i>	<i>2 years and 5 months</i>
<i>Voiced ~ Voiceless</i>												
<i>z ~ s</i>			✓		✓		✓		×		×	
<i>ð ~ f</i>			✓		✓		✓		✓		✓	
<i>z ~ ʃ</i>			✓		✓		✓		✓		✓	
<i>ʃ ~ ?</i>		×			✓		✓		✓		✓	
<i>m ~ ?</i>		×			✓		×		✓		✓	
<i>Voiceless ~ Voiced</i>												
<i>h ~ ʔ</i>		✓			✓		✓		×		×	

Table (3): Substitution in Place of Articulation

Place of articulation	Subjects		Z Male 2 years and 7 months	N Male 2 years and 6 months	M1 Female 2 years and 5 months	M2 Female 2 years and 5 months
	Age	H Male 2 years and 8 months				
<i>Bilabial ~ Labio-dental</i>						
p ~ f		✓	✓	✓	✓	✓
<i>Inter dental ~ Labio-dental</i>						
θ ~ f		✓	✓	✓	✓	✓
<i>Denti-alveolar ~ Glottal</i>						
t ~ ?		×	✓	✓	✓	✓
<i>Denti-alveolar ~ Inter dental</i>						
z ~ ð		✓	✓	✓	✓	✓
s ~ θ		×	×	✓	✓	✓
<i>Denti-alveolar ~ Glottal</i>						
ʔ ~ ?		×	✓	✓	✓	✓
<i>Palato alveolar ~ Denti-alveolar</i>						
ɗ ~ d		✓	✓	✓	✓	✓
ʃ ~ t		×	✓	×	✓	✓
tʃ ~ t		✓	✓	✓	✓	✓

<i>Palatal ~ Glottal</i>					
j ~ ?	✓	×	×	✓	✓
<i>Velar ~ Denti-alveolar</i>					
k ~ t	×	✓	✓	✓	✓
<i>Velar ~ Uvular</i>					
k ~ q	✓	✓	×	✓	✓
<i>Uvular ~ Denti-alveolar</i>					
q ~ t	×	×	✓	✓	✓
<i>Velar ~ Denti-alveolar</i>					
~ n	✓	×	×	✓	✓
<i>Velar ~ Glottal</i>					
x ~ ?	×	✓	×	✓	✓
<i>Uvular ~ Velar</i>					
q ~ k	×	✓	✓	✓	✓
<i>Uvular ~ Glottal</i>					
q ~ ?	×	✓	✓	✓	✓
<i>Pharyngeal ~ Glottal</i>					
ʕ ~ ?	×	✓	✓	✓	✓
h ~ ?	×	✓	✓	✓	✓

Table (4): Substitution in Manner of Articulation

Manner of articulation	Subjects		H		Z		N		M1		M2	
	Age		Male	2 years and 8 months	Male	2 years and 7 months	Male	2 years and 6 months	Female	2 years and 5 months	Female	2 years and 5 months
Plosive ~ fricative	p ~ f		✓		✓		✓		✓		✓	
	z ~ d		✓		✓		✓		✓		✓	
	ð ~ d		✓		✓		✓		✓		✓	
	ʃ ~ t		×		✓		×		✓		✓	
	s ~ l		×		×		✓		✓		✓	
Fricative ~ Nasal	s ~ t		×		✓		×		✓		✓	
	ð ~ g		✓		✓		✓		×		×	
	~ n		✓		×		✓		✓		✓	
	Affricate ~ Plosive											
	dz ~ d		✓		✓		✓		✓		✓	
Lateral ~ Nasal	tʃ ~ t		✓		✓		✓		✓		✓	
	m ~ ?		×		✓		×		✓		✓	
	~ n		✓		×		✓		✓		✓	
	Tap ~ Lateral		✓		✓		✓		✓		✓	
	r ~ l		✓		✓		✓		✓		✓	
Glide ~ plosive	j ~ ?		✓		×		×		✓		✓	

Table (5): Substitution in Tafxim

Tafxim	Subjects	H	Z	N	M1	M2
Mufaxxam ~ Non-Mufaxxam	Age	2 years and 8 months	2 years and 7 months	2 years and 6 months	2 years and 5 months	2 years and 5 months
		Male	Male	Male	Female	Female
s ~ t	×	✓	✓	×	✓	✓
s ~ ?	×	✓	✓	✓	✓	✓
t ~ t	✓	×	×	✓	✓	✓

Conclusion

This study has investigated one of the phonological processes which is substitution. It is a tendency among children to simplify their speech. The results show that substitution occurs initially, medially and finally and occurs in all consonantal features. In voicing substitution occurs in both voiced ~ voiceless and voiceless ~ voiced. In place of articulation most instances of substitution occur in dental (alveolar), velar and uvular. This means that these sounds are more difficult than other sounds for children. However, substitution here is obvious in cases of changing most features to glottal and dental-alveolar, particularly /t/ and /d/ for these two sounds are the easiest for children. Fricative sounds in manner of articulation seem more difficult than other sounds; for almost six of them change to other sounds in child speech. On the other hand plosive sounds become a shelter for children because they are quite easy. What is noteworthy is that substitution from mufaxxam to non-mufaxxam also occurs in child speech. Sometimes, more than a feature of substitution change, for example s ~ t where three features change and more than one substitution occur in one word, e.g. : /kahrab/ ~ /taʔlab/ (electricity) → (تألب) ~ (كهرب) k ~ t, h ~ ʔ, r ~ l.

References

- Al-Atjja, K. I. (1983): *FilbahṮiṣṣwtj ṣindalṣrab*. Baghdad, Dar el-Hurjja.
- Crystal, D. (1994): A Dictionary of Linguistics and Phonetics. (3rd) ed. Oxford: Blackwell.
- Fikkert, P. (N. D.). Acquisition of Phonology. Available at <http://www.fikkert.com/fikkert-glot.pdf>.
- Grunwell, P. (1981). The Nature of Phonological Disability in Children. London, Academic Press INC.
- Al-Hamdani, M. (1982). ṯallu a wa ṣilmunnafsi. Dar el-Kutub lil Tibaa' walnashr, Baghdad.
- Hyman, L. M. (1975). Phonology: Theory and Analysis. United States of America, Holt, Rinehart and Winston.
- Ingram, D. (1976). Phonological Disability in Children. London, Edward Arnold, (Publishers) Ltd.
- _____, (1978). "The Production of Word – Initial Fricatives and Affricates by Normal and Linguistically Deviant Children". In Language Acquisition and Language Breakdown. 63–85, A. Caramazza and E. B. Zurif (eds.), London, The John Hopkins Press Ltd.
- Kenstowicz, M. (N. D.). "Generative Phonology". United States, Cambridge. Available at, www.linguistics.ucla.edu/people/hayes/phonet/indgrover.pdf.
- Lock, J. L. (1980). "The Prediction of Child Speech Errors" Implications for Theory of Acquisition". In Child Phonology. Vol. 1, 193-209. G. H. Yeni – Komshian et al. (eds.), London, Academic Press, INC.

- Nwokah, E. E. (1986). "Consonantal Substitution Patterns in IGBO Phonological Acquisition". In Language and Speech. Vol. 29, Part 2, 159-176.
- Rahim, A. J. (1980). The Phonology of Spoken Iraqi Arabic from the Functional Point of View. (Unpublished Ph. D. Thesis), University of Leeds, U.K.
- Rahim, A. J. and S. A. Farjo (1985). "A Functional Phenomatic Analysis of the Consonants of Spoken Mosuli Arabic"; in Al-Mustansiriya Literary Review, 11: 263-284.
- Razzok, A. K. (1981): "The Acquisition of Phonology (In early childhood)" In Al-Rafidayn Literary Review, University of Basrah, Vol. 22, No. 21, 61-73.
- Roach, P. (2001). Phonetics. Oxford, Oxford University Press.
- Sa'eed, A. H. (2006). The Acquisition of Arabic Consonant Clusters by Preschool Mosuli Children. (Unpublished Ph. D. Thesis), Mosul, University of Mosul.
- Al-Samarrai, I. (1981). ʔttatawwurullu awijju. Dar el-Andalus, Beirut, Lebanon, 2nd ed.
- Seymour, H. N. (2004). "A Non-contrastive Model for Assessment of Phonology" In Speech and language, Vol. 25, 1, 91-99. New York, Thieme Medical Publishers.
- Wafi, A. A. (1971). Naʔʔatullu ati ʔidal ʔnsa:n wa ttifil. Al-Alam Al-Arabi Press, Cairo,
- Walsh, C. M. (2007). "Artic / Phonology". Available at Cwalsh@brittonkill.k12.ny.us.

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