

CREATIVITY/PRODUCTIVITY OF CHILD'S LANGUAGE: A CASE STUDY OF QATARI DIALECT

Dr. Haifa Al-Buainain

1. Introduction

“And he taught Adam all the names, then showed them to the angels, saying: inform me of the names of these, if ye are truthful” (The Holy Quran, Sourat Albagarah, Ayah 31)

Before they can add 2+2, children are conjoining sentences, asking questions, selecting appropriate pronouns, negating sentences and using the phonological, morphological, syntactic and semantic rules of language. Yet, children are not taught language as they are taught arithmetic. Children learn many things as they are developing from infancy to maturity, but they learn these things in different ways.

A normal human being can go through life without having learned to read or write. Millions of people in the world today prove this. However, these same millions all speak and understand and can discuss complex and abstract ideas as well as literate speakers can. Thus learning a language and learning to read are somehow different. Similarly, millions of humans grow to maturity without ever having learned algebra or chemistry or how to use a typewriter. They must in some sense be taught these skills or systems, but they do not have to be taught to walk or talk. Language learning is largely “from the inside out” rather than being “outside in” (Gleitman, 1993:28).

2. Stages of language development

Children do not wake up one morning with a fully formed grammar in their heads or with all rules of social and communicative intercourse. Language is acquired through stages. Some linguists divide these stages into pre-linguistic and linguistic stages.

The findings of this paper have been based on personal observation. My children have been selected to be the subjects of this study. It should be noted here that this is the first study of Qatari dialect as a first language. Other studies discussing Arabic dialects as first language are Omar (1973) and Samdi (1979).

2.1. The babbling stage

After a long period of gurgling and cooing, children begin to babble usually around the six-month period. It consists of producing long sequence of vowels and consonants. The importance of babbling is as follow: First, it serves primarily as

practice for later speech. Second, children babble for social reward or simply for sheer pleasure (Jannedy *et al.* 1994:268). During the babbling stage, the pitch or intonation contours of infants' utterances begin to resemble the intonation contours of sentences spoken by adults.

Examples of this stage from Qatari dialect are:

1. [mamama]
2. [bababa]
3. [dadada]
4. [dededa]
5. [tatata]

(Refer to Appendix for phonological transcription used in this paper).

2.2. The holophrastic stage

Sometimes after one year (it varies from child to child and has nothing to do with how intelligent the child is), children begin to use the same string of sounds repeatedly to 'mean' the same thing. At this point of time, they have learned that sounds are related to meanings and they are producing their first 'words'. Most children seem to go through the 'one-word = one sentence' stage. According to Stubbs (1995:379) "holophrases are a feature of early child language". These one-word sentences (if one can call them sentences at all) are called holophrastic sentences.

The first words uttered by a one-year-old child typically name people, objects, pets and other familiar and important parts of its environment. The child's vocabulary soon comes to include verbs and other useful words as well as nouns. Perhaps a picture of the child's language at this stage will illustrate how much the young child has already acquired:

1. [babah] [ba:ba:h] "father" / "man"
2. [mama] [ma:ma:h] "mother" / "woman"
3. [dodoh] "pain" / "painful"
4. [a:na:n] / [anan] / [brmbrm] / [di:d] / [bi:b] "car or any kind of vehicle"
5. [deedeh] "milk"
6. [dadah] "baby/ child"
7. [wowoh] "anything the child is afraid of"
8. [emba:] "animals especially mammals"
9. [i:s] "sleep/ go to sleep"
10. [bah] "finish"
11. [embooh] "water/ I want water"
12. [ma:y] "water/ I want water"
13. [nanna] "food/ I want food"
14. [hata] "give me"
15. [mali] "mine"
16. [eidai:d] "grandfather"
17. [babah] "to take a bath"
18. [ma:lna] "ours" (the child meant "mine")

19. [ji:ji:h] “bird/s”
20. [mamam] “food”
21. [dabouh] “insect”

What is more interesting than merely the list of the child’s vocabulary is the way he/she uses these words:

- a. When the child first began to use these words, the stimulus had to be present. But later this was no longer true. For example [anan]/[a:na:n]/[brmbm]/ [di:d]/[bi:b] was first only used when pointing to a car or any other vehicle in the street, but, later was used in pointing to pictures, toys or in asking to go in the car.
- b. While many of these single forms are used for naming objects, they may also be produced in circumstances that suggest that the child is already extending their use. For example pointing to an empty bed while uttering the name of a sister who normally sleeps in the bed, even in the absence of the person named, is an indication that the child could be capable of referring to the sister and the bed, but is not yet ready to put the forms together to produce a more complex phrase.
- c. It has been noticed that only the words for animals which exist in the child’s environment are replaced by their sounds, for example, [miao] for the cat, [kokokoko] for the cock and [wohwoh]/[howhow] for the dog; as a result, animals which do not exist in his/her environment are called [emba:’]/ [wowoh].
- d. Phonologically the child’s first words are like the words of most children at this stage of learning Arabic, English and other languages, generally monosyllabic with a CV (Consonant-Vowel) form. The vowel part may be diphthongal, depending on the language being acquired. Its phonemic or phonetic inventory (at this stage they are equivalent) is much smaller than is found in the adult language.
- e. The child’s phonological inventory includes the consonants [b,m,d,t,k] which certainly are frequently occurring sounds in the world’s languages.

Many studies (Brown, 1973; Hopper and Naremore, 1978; Jannedy *et al.* 1994) have shown that children in the holophrastic stage can perceive or comprehend many more phonological contrasts than they can produce themselves. Thus, at this stage, it is not possible to determine the extent of the grammar of the child simply by observing or noting child’s speech production. Following Chomsky (1965), McNeill (1970) argued that knowledge of basic syntactic relation is innate and that children’s experience with language merely provides the children with information for learning the relevant surface structures of their native languages. McNeill argued that single-word utterances have the underlying representation of a full sentence but that only one element of this underlying structure is realized in the surface structure. Bloom (1973) pointed out that children are not constrained to utter only one word at a time, utterances longer than one word occur but they do not contain more than one word meaningful element.

2.3. The two-word stage

Around the time of their second birthday (but remember, this can be earlier or later, since there is a great variability among children) children begin to produce two-word utterances. At first these appear to be strings of two of the child's earlier holophrastic utterances, each word with its own single-pitch contour.

Children begin to form actual two-word sentences, with the relation between the two words showing definite syntactic and semantic relations and intonation contours of the two words extending over the whole utterances rather than being separated by a pause between them. The two-word stage is a remarkable stage in the child's life. During which the child acquisition emerges rapidly after his one-word stage. Now, the child is able to produce two - element utterances and makes semantic relationship between them such as:

- i. Agent + Action
- ii. Action + Location
- iii. Action + Object

The following examples illustrate the kinds of patterns which are found in children's utterances at this stage:

1. [abi ta:x] "I want a gun"
2. [aroh ma'a:k] "I (want to) go with you"
3. [sawi li:] "make for me"
4. [ana a:keb] the second word should be [arkeb] "I go up"
5. [babah ra:h] * "father went"/ "Did my father go?" (depending on intonation)
6. [ju:ti haya] "Haya's shoes"
7. [dasma:n sa:fi:t] "I saw Dasman (a shopping complex)"
8. [dadah noum] "(the) baby is sleep"
9. [miao mamam] "(the) cat is eating"
10. [noum abeh] "sleep upstairs"
11. [lou:h bala'] the first word should be [barouh] "(I want to) go out"
12. [atini: hala:wah] "give me sweets"
13. [jebi koeh] "bring (the) ball"
14. [ba:bah di:d] * "father car"

a. During the two-word stage, there are no syntactic or morphological markers, that is, no inflections for number or person or tense or gender and so on. In fact the child may address a female as a male or vice versa. Pronouns are rare, although many children do use [ana] "me" to refer to themselves and some children use other pronouns as well. It has been noted that in Noun + Noun sentences, such as [ju:ti haya] "Haya's shoes", the two words can express a number of different grammatical relations which will later be expressed by other syntactic devices. Thus, depending on different contexts, the phrase [ju:ti haya] can be used to show possessive relation when the child is pointing to Haya's shoes or to show a Subject + Object relation in the situation when the mother is putting the shoes on the child or as a question "Is Haya putting her shoes too?" or as a request "I want to put Haya's shoes on." Another example is [ba:bah di:d]. It could mean "This is Daddy's car" or "Daddy went in his car" or the child is asking his father to take him in the car.

b. In this stage, children exhibit more phonological processes than does adult speech. For example, the child uttered [korti] “my ball” as [koty] deleting a whole sound. Other examples illustrating the same process are as follow:

1. [ahsa:n] “horse” as [asa:n]
2. [aso:f] “I (want to) look/watch/see” as [to:f]
3. [maka:ni:] “my place” as [ka:ni]
4. [ta’ba:n] “tired” as [taba:n]
5. [maski:n] “poor thing” as [aki:n]
6. [agarh] instead of [abgarh] “cow”
7. [ari:rh] for [(al)sari:rh] “wicked woman”
8. [ana:k] instead of [ahna:k] “there”
9. [eka:n] for [deka:n] “shop”
10. [waxah] for [wasxah] “dirty” (feminine)
11. [akari:m] for [askari:m] “ice-cream”
12. [sayto:n] as [sato:n] “devil” (in diminutive case)
13. [ʔhel] / [hel] for [ʔrhel] “go away” (imperative)
14. [meh] for [melh] “salt”
15. [no:n] for [a’yo:n] “eyes”
16. [sa:n] for [selta:n] “name of a boy”
17. [a:s] for [‘a:seh] “name of a girl”
18. [je’h] for [jum’eh] “name of a boy”
19. [la:hi:m] for [ibrahi:m] “name of a boy”
20. [eta:h] for [mefta:h] “key”
21. [abah] for [arba’h] “four”
22. [afo:er] for [‘esfo:er] “bird”
23. [ali:h] instead of [xali:h] “leave it”

c. Replacing one segment by another was also noted. The following examples illustrate substitution processes:

1. [kala:s] instead of [xala:s] “finish”
2. [teti:n] instead of [sechi:n]/ [seki:n] “knife”
3. [tita:b] for [kita:b] “book”
4. [a:sleb] instead of [asrab] “I drink”
5. [namneh] for [namleh] “an ant”
6. [ba:by] instead of [ma:bi] “I don’t want”
7. [kaba:n] instead of [xarba:n] “not working”
8. [nafastah] for [nasaftah] “I dried it”
9. [katar beibal vidzen] for “Qatar Cable Vision”
10. [ta:h] for [ta:h] “fell down”
11. [la:ygth] instead of [la:gyth] “I found it”
12. [tewa:ly] instead of [tewa:yr] “tyres”
13. [bekso:t] for [besko:t] “biscuit”
14. [hawa:wa:na:t] for [haya:wa:na:t] “animals”
15. [bhwawa:n] for [bhlawar:n] “chew candy”
16. [tai:lah] for [tai:rah] “a plane”
17. [ta’el] for [sa’er] “hair”
18. [ato:h] for [ako:h] “that”

Whatever it is that the child actually intends to communicate via such expressions, the significant functional consequences are that the adult behaves as if communication is taking place. That is, the child not only produces speech, but also receives feedback, which usually confirms that the utterance ‘worked’. By the age of two, the child will have a vocabulary of many words (less than a hundred). The child will typically be treated as an interesting entertaining conversational partner by the principle caretaker who is sometimes creates words to be suitable for children, for example, [i:s]/[halo:lo] “go to bed/ asleep”; [namnam] “food” and [kex]/ [ʔx]/ [geʔ]/ [ʔʔ]/ [axi:h] “something bad/ dirty”. Other examples are mentioned earlier under the one-word stage.

2. 4. Telegraph to infinity

There doesn’t seem to be any ‘three-word’ sentence stage (Jannedy *et al* 1994:276). When a child starts stringing more than two words together, the utterances may be three, four, five words or longer. These first utterances of children, which are longer than two words, have a special characteristic. Usually, the small ‘function’ words such as [al]/[el] “the”, [min] “from”, [fi] “in”, [ila:] “to”, [‘la:] “on”; etc. are missing. Only the words which carry the main message (i.e. the ‘content’ words) occur. Children often sound as if they are reading a telegram that is why such utterances are called ‘telegraphic speech’. When we refer to these sentences as telegraphic, clearly this is just a descriptive term. Since the child doesn’t deliberately leave out the non-content words as does an adult sending a telegram. The following examples illustrate this stage:

1. [ha: i le’bah ma:lti:] “this is my toy” instead of [ha i elle’bah ma:lti:]
2. [ana xalas hali:b] * “I finish milk” for [(ana) xalast elhali:b]
3. [‘ lam adi:n aroh] * “go to Ala Aldeen” instead of [ba:roh ‘ la: edi:n]
4. [asad goey] * “lion strong” instead of [elasad goey]
5. [bah aowa:n] * “no colour left” instead of [ma:fi:h alowa:n]
6. [la: ahmed] “no Ahmed” (The child meant “I don’t want Ahmed”) instead of [ma:bi ahmed]
7. [hasah babah] (singular) (The child saw some stones in the water) literally it means * “the stone is taking a bath”.
8. [batoly] “open for me” instead of [batloly]
9. [afateh sta:reh] for [aftah asta:rh] “ I open the curtains”
10. [abi sala:lah odeh] “I want a big car” instead of [abi saya:rah ‘odah]
11. [ana ghasel axa:l] “I clean the cucumber” instead of [(ana) aghsel lexya:r]
12. [arahi:m ela:h] for [bism ela:h erahma:n erahi:m] “ In the name of God Most Gracious, Most Merciful”
13. [enro:h sala:lah] “we’ll go in/by car” instead of [enro:h (fi:) asaya:rah]
14. [sala:mah] for [ma’ asala:mah] “bye”
15. [goma: ato:f] for [goma: ‘ asa:n aso:f] “let me watch” (Children were watching TV)
16. [abo:y hamam] instead of [abo:y fi alhamam] “my father is in the bathroom”
17. [ba:bah di:d sekel] instead of [ba:bah seghel alsaya:rah] “Daddy started the car”
18. [abi: aro:h eidi:d] instead of [abi: aroh bai:t eidi:d] “I want to go to granny’s”
19. [seki: ba:b halami:] instead of [seki: alba:b ‘en elhara:mi:] * “close the door from the thief”
20. [helamet martyn asyrk alhendy] instead of [helamet martyn fi/bi asyrk

alhendy] “I dreamt twice of Indian circus”

21. [serab wa:yed ma:y ana] instead of [serabt ma:y wa:yd] “I drank a lot of water”.

In Example (21), the child is marking the pronoun separately rather than inflecting the verb for number and gender. In fact, inflection is an indication of complexity. Omar (1973) reported that inflections were the last to be fully acquired and the order of acquisition was found to be determined by their regularity and essentiality of convergence of meaning. It is assumed that a general uninflected main verb (or adjective) is all-purpose tool.

When the child begins to produce utterances that are longer than two words, these utterances appear to be ‘sentence-like’. They have hierarchical constituent structures similar to the syntactic structures found in the sentences produced by the adult grammar. The child shows what he/she wants to have or where to go or what to do as can be seen in the examples above. The child’s utterances are not simply randomly strung together words but from a very early stage, reveal his/her grasp of the principles of sentence formation. Utterance number 7, for example, is new and unique, since no child will hear an adult produce such an utterance, therefore, the child must have some creative, linguistic capacity, which allows for the creation of utterances like [hasah babah]. This is supporting the innate capacity given by God to human beings to enable them to acquire language. This is clearly stated in the Holy Quran: “And he taught Adam all the names” (ibid.).

Phonological processes

A kind of assimilatory process was also noted. This results in mismatch between the child’s form and the adult model. The examples mentioned below show tendencies to assimilate one segment in a word to another. Even if the child has acquired particular sound in some words there may be certain contents where his production may be altered.

1. [anoadi:h sla:m] instead of [anoadi:h sma:l] “take him (to the) north”
2. [fakartah wa:yd ma: rah] for [fraktah wa:yd ma: rah] “I cleaned it but it is still dirty”
3. [ba:ba: wanjer] for “power rangers”
4. [ana atoft] instead of [(ana) atfot] “I dried (myself)”
5. [asha:n] instead of [ahs:n] “horse”
6. [agbarah] for [abgarah] “cow”
7. [bagz baga:ny] for “bugs bunny”
8. [‘ada:yah] for [de’: yah] “advertisement”
9. [atkares] instead of [atkaser] “broke”
10. [keser] instead of [seker] “sugar”
11. [mabtax] instead of [matbax] “kitchen”
12. [zagreh] instead of [zargeh] “blue” (feminine gender)
13. [masmas] instead of [masa:s] “lollipop”
14. [a:serserch] for [ba:sa:srech] “I’ll tell you a secret”
15. [gha tyyh] for [aghtyyh] “press it”
16. [mara:syn] for [masa:ryn] “guts/bowels”
17. [xasa:f] for [xafa:s] “bat”

Overgeneralization

Children seem to form the simplest and most general rule they can from the language input they receive and to be so ‘pleased’ with their ‘theory’ that they are to use the rule whenever they can (Fromkin and Rodman, 1993:379). The process of overgeneralization /overextension is common in both first and second language acquisition. In this paper, overgeneralization as a strategy to form new words was observed. The following examples illustrate how children form hypotheses and test them until they formulate the language ‘rules’ and construct a grammar. The child extends the use of grammatical rules (in this case A: the feminine gender and B: the plural) beyond their accepted uses generally by making words or structures follow a more regular pattern.

A. The feminine gender:

1. [extabo:teh] to indicate a female octopus
2. [poer reindzereh] to indicate a female power ranger
3. [anti mester beneh] addressing a female acting as Mr. Bean
4. [sawi: ba:tma:neh] to refer to Batwoman.
5. [so:fi: superma:neh] referring to Superwoman/ Supergirl.
6. [asedeh] for [labo:eh] “lioness” ([ased] means “lion”)
7. [xaro:feh] for [sa:h] “sheep” ([xaro:f] is a “male sheep”)

B. The plural:

1. [gatowat] instead of [agta:wah] “cats”; (singular is [gatwh])
2. [raya:la:t] instead of [reya:yi:l] ‘men’; (singular is [raya:l])
3. [‘anza:t] for [ma’az]/ [ghanam] “goats” (singular is [‘anzah])
4. [fi:la:t] instead of [afia:l]/ [afilah]/ [fialah] “elephants”; (singular is [fi:l])
5. [asada:t] instead of [asowd] “lions” (singular is [asad])
6. Child: [‘endehm di:ch wa:yd]
Mother: [wasaw] “what?”
Child : [‘endehm di:ka:t wa:yd]
Mother: [‘endehm wasaw]
Child: [‘endehm di:cha:t wayd] “They got a lot of cocks.” The correct form of plural for the singular [di:ch] is [ady:cheh]
7. Child:[saraw a wa:b]
Mother: [wasaw saraw]
Child: [saraw o:b wa o:b wa:yed] “ they bought many (men)dresses”; (the singular is [o:b])
8. [axraza:t] for [xaraz] “marbles/ precious stones’ (the singular is [axrezeh])
9. [teyla:t] for [eteil] “marbles” (the singular is [tey:leh])
10. [adfedat ya:kel a eba:na:t] for [eba:n] “flies” (the singular is [eba:neh])
11. [ghabyi:n] for [aghbya:ʔ] (masculine gender) “stupid men” (singular is [ghaby])
12. [jamala:t] for [jema:l] / [nwo:g] “camels” (the singular is [jamel])
13. [hama:ma:t] for [hama:m] “pigeons” (the singular is [hama:meh])
14. [namla:t] for [namel] “ants” (the singular is [namelh])
15. [a’yo:na:t] for [a’yo:n] “eyes” (the singular is [a’yo:n])
16. [temsa:ha:t] for [tama:si:h] “crocodiles” (the singular is [temsa:h])

17. [arneba:t] for [ara:nib] “rabbits” (the singular is [arneb])
18. [pouer raindzera:t] for power rangers
19. [wyn eswyta:ty] “Where are my sweets?”
20. [yomah sryta:t wa:yd ‘enden?] “Mummy, we have a lot of video cassettes.” The correct form of plural for the singular [saryt] is [asrateh]
21. [youma:t] for [aya:m] “days” (the singular is [youm])
22. [ha: yh ma:l akbira:t] instead of [ha: yh llkba:r/heg lekba:r] “ This is for old (people).” (The singular is [ekbyr])

Examples (18&19) are overgeneralizations of the Arabic rule of plural to English words; i.e. ranger and sweet. Instead of saying [wyn hala:wtyy/ hala:wya:ty], (the singular is [hala:wh]), the child produced the previous utterance in Example 19. The child, then, is functioning as a ‘little linguist’ (Foss and Hakes 1978:279). That is how the Active Construction of a Grammar Theory tries to explain child language acquisition. According to it, when children listen to language around them, they make hypotheses about rules for the concept they have heard. These hypotheses form their grammar. Children apply their hypotheses/rules in their utterances. The examples mentioned under Overgeneralization, clearly illustrate that. Children’s hypotheses are based on the few utterances they hear, so their hypotheses are sometimes wrong. When the child discovers that his utterance doesn’t match the adult’s, he finds the error and modifies it so that his own grammar matches that of the adult’s. Children internalize the target language rules through a ‘subconscious’ process (p. 123). However, believing that language ability is innate in humans the theory states that there are restrictions imposed by the innate linguistic universals on the kinds of hypothesis children may form. All children form the same hypotheses because of these restrictions.

3.Conclusion

When children learn a language, they learn the grammar of that language, the phonological, morphological, syntactic and semantic rules. No one teaches them these rules, children seem just to ‘pick them up’ and in so efficient a manner as to suggest that children are apparently ‘pre-programmed’ to learn language. This innate capacity is a gift from God. It enables children to analyze the language of their environment and to create and refine their own grammar until they can understand and produce the full range of utterances which adults can produce.

REFERENCES

- Barrett, M. D. (1985). Children’s single-word speech. Wiley and sons Ltd.
- Bloom, L. M. (1972). Language development form and function in emerging grammar. Cambridge.

- Brown, R. (1973). A first language : the early stages. Cambridge.
- Bukshaisha, F. A. (1985). An Experimental Phonetic Study of Some Aspects of Qatar Arabic. Ph. D. Thesis. University of Edinburgh. Britain.
- Chomsky, N. (1965). Aspects of the theory of syntax. Cambridge, MA: MIT Press.
- Foss, D. and Hakes. D. (1978). Psycholinguistic : an introduction to psychology and language. New Jersey: Prentice-Hall.
- Fromkin, V. and Rodman, R. (1993) (5th ed.) An introduction to language. New York.
- Gleitman, L-R. (1993). "A human universal: the capacity to learn a language". Modern Philology, 90: S13- S33 USA.
- Hopper, R. and R. J. Naremore (1978) (2nd ed.) Children speech: a practical introduction to communication development. Harper and Row.
- Ibn Khaldoun, A. (NO DATE). Muqaddimah. Printed in (1284 A.H.). Dar Altiba'h Alkhidaywih. Egypt.
- Jannedy, S. et al. (1994)(6th ed.) . Language Files. Ohio State University.
- Judi Wells Linfords (1980). Children's language and learning. USA.
- Mc Chane, J. (1980). Learning to talk. Cambridge University Press.
- Mc Neill, D. (1970). The acquisition of language. New York. Harper and Row.
- Omar, M. (1973). The acquisition of Egyptian Arabic as a native language. Mouton. The Hague.
- Samdi, Q. M. (1979). The Acquisition of the Jordanian Arabic Interrogation and Negation by a Three-Year Old Native Speaker of Jordanian Ph. Thesis. University of Texas at Austin.
- Stubbs, M. (1995). "Collocations and cultural connections of common words". Linguistics and Education. 7: 379-390.

APPENDIX

The following phonological transcription* is used in this study:

Consonants

Description

b	ب	voiced bilabial stop
t	ت	voiceless alveolar stop
t	ط	voiceless ‘emphatic’ alveolar stop

d	د	voiced alveolar stop
d	ض	voiced ‘emphatic’ alveolar fricative
k	ك	voiceless velar stop
q	ق	voiceless uvular stop
ʔ	ء	glottal stop
j	ج	voiced palato-alveolar affricate
‘	ع	voiced pharyngeal fricative
f	ف	voiceless labiodental fricative
	ث	voiceless dental fricative
	ذ	voiced dental fricative
	ظ	voiced ‘emphatic’ dental fricative
s	س	voiceless alveolar fricative
s	ص	voiceless ‘emphatic’ alveolar fricative
z	ز	voiced alveolar fricative
s	ش	voiceless alveolar fricative
x	خ	voiceless uvular fricative
gh	غ	voiced uvular fricative
h	ح	voiceless pharyngeal fricative
h	ه	voiceless laryngeal fricative
r	ر	alveolar trill
l	ل	lateral alveolar
m	م	bilabial nasal
n	ن	alveolar nasal
w	و	bilabial approximant
y	ي	palatal approximate
dz	ج	voiced palato-alveolar
ch	ك	voiceless palato-alveolar
g	ق	voiced velar stop

Based on Bukshaisha (1985).

