

**The /æ/ and /ə/ Contrast as a Case of Fossilized Pronunciation Error for Turkish
English Teachers**

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Abstract

The [æ], called “ash” and [ə], called “schwa” are very frequent phonemes in English language that confuse the Turkish teachers of English. The main reason for this confusion is that both of them do not exist in modern standard Turkish. Another reason is the reduction of [æ] into [ə] in word formation process with the accompaniment of the change of primary stress to another syllable. For example, *milk mán*, *post mán*, and *gate mán* are phrases by nature, but in a process of compounding they take the morphological form *of milkmǎn*, *póstmǎn*, and *gátemǎn* through a phonological decay of the /æ/ phoneme into /ə/ phoneme with the reduction of the primary stress of the free word *mán* into the weak stress form like *-mǎn*, relegating it into the position of a bound morpheme. This article, through a model lesson plan, will explore such sound changes that confuse the Turkish English teachers.

Key words: *phonemic decay, ash, schwa, fossilized error, and mobility of stress*

Özet

**Türk İngilizce Öğretmenlerinin Kemikleşmiş Bir Sesletim Sorunu: /æ/ ve /ə/
Sesbirimlerinin Karşılaştırılması**

Çağdaş İngilizcede “ash” olarak adlandırılan /æ/ sesbirimi ve schwa olarak adlandırılan /ə/ sesbirimi çok sık rastlanılan iki sesbirimdir. Türk İngilizce öğretmenleri bu iki sesbiriminin sesletilmesini çoğunlukla birbirlerine karıştırmaktadırlar. Böyle bir

olay için asl neden bu iki sesbirimin de çağdaş Türkçede var olmamasıdır. Diğer bir neden ise, /æ/ sesbiriminin dilbilgisel süreçlerden geçerek seslemlerde vurgu değişikliğinin de yardımıyla, /ə/ sesbirimine indirgenmesidir. Örneğin, *milk mán, post mán* ve *gate mán* birer sözcük öbekleridir, ama birleşik sözcük olma süreci içinde, birincil vurguyu yitirerek /æ/ sesbiriminin /ə/ sesbirimi düzeyine indirgenmesiyle, *man* gibi bir bağımsız sözcük artık bağımlı bir sözcük konumuna düşer ve hep zayıf vurguyu üsüne çeker. Bu makalede, Türk İngilizce öğretmenlerinin kafasını karıştıran bu sesletim olayı ele alınacak ve bir örnek ders planı uygulanmasıyla bu sesletim güçlüğü çözülmeye çalışılacaktır.

Anahtar Sözcükler : *sesbirimsel indirgeme, ash (kelebek a), schwa, kemikleşmiş hata ve vurgu hareketliliği*

Introduction

English language distinguishes four different stress phonemes each of can change into each other in connected speech. The primary stress is shown as / 1, which attracts the most heavy load of breath pressure onto the related syllable. Primary stress mainly falls on *such content words* like nouns, verbs, adjectives, and adverbs. The syllable that takes the primary stress is the area where the pronunciation of a word is audibly heard with more respiratory energy and muscular force than the other parts of the same word. The weakest stress phoneme is called schwa, which is shown as / ʌ, commonly falls on the *functions words*, like conjunctions, propositions, and articles . The secondary stress is frequently seen in compound words and is indicated by a sign like / ˆ and is able the change the meaning of the words. Finally, the tertiary stress, which is shown as / ʌ is encountered in polysyllabic words in English. The primary stress undergoes a phonemic decay in the conversion of free morphemes into bound morphemes with the accompaniment of stress change. For example, the word gallant is a noun with a phonemic shape like *gallant* [gælənt], but it takes the phonemic form of *gallant* [gələnt] as an adjective. Similarly, the word *inland* [ínlənd] is an adjective, but gets to be an adverb when the stress changes, as seen in the word *inland* [inlənd]. So such stress changes, which also bring about the pronunciation changes, create confusions in form of fossilized errors in the pronunciation of Turkish English teachers.

The Nature of Word Classes and Stress Patterns in English Words

Because there are many dialects of English, the stress patterns on vocabulary items in English also differ from one dialect to the other. For example, according to Longman Dictionary of American English (2005:4-5), the noun form of the word *accent* is [æksent], but its verb form can have two forms like [æksent](v) and [æksént]: it must be noted that the primary stress in the verb form can be either on the first or the second syllable. This case may be confusing to the learners of English. So is the case with the word *addict* [ædɪkt](n) and *addict* [ədɪkt](v). There are many examples like his that give hard times to the learners of English in picking up the correct stress pattern.

Owing to the existence of 4 different stress phonemes, stress has a very *mobile nature* in English. Here is an example from American English: on the word *photo*

photo [fóvtov]

academy [əkædəmi]

photography [fətógrəfi]

academic [ækədəmɪk]

photographic [fotgəgrəfɪk]

academician [əkədəmɪʃən]

In the word *photo* and *academy*, the primary stress falls on the following syllable in each case, exhibiting the mobile situation of the stress incident in American English.

An interesting case of the *mobility of stress* in English is seen in suffixation of the free morpheme *man* [mæn]. This word carries a primary stress since it is a free morpheme, but when it is attached to another free morpheme it loses its primary stress to a weak stress, making itself a bound morpheme. Here are some examples on phonemic reduction of [æ] to [ə]:

Free Morpheme

milk [mílk] + man [mæn]

post [póust] + man [mæn]

wise [wáiz] + man [mæn]

Bound Morpheme

milkman [míłkmən]

postman [póustmən]

wiseman [wáizmən]

police [pə'li:s] + man [mæn] policeman [pə'li:smən]

The shift of [æ] to [ə] is known as phonemic reduction, which converts a free morpheme into a bound morpheme. This case is also termed as *schwa rule* in modern English.

In fact, the schwa rule is very common in English. Fromkin et al (2003: 312-313) also point to the widespread use of schwa rule:

| A | | | B | |
|---|----------|-----|-------------|-----|
| i | compete | [i] | competiton | [ə] |
| ɪ | medical | [ɪ] | medicine | [ə] |
| e | maintain | [e] | maintenance | [ə] |
| æ | analysis | [æ] | analytic | [ə] |
| a | solid | [a] | solidity | [ə] |
| o | phone | [o] | phonetic | [ə] |
| u | Talmudic | [u] | Talmud | [ə] |

What is being meant over hear is that in column A all the boldfaced vowels are vowels with the primary stress, but when they lose their primary stresses in suffixation, as seen in Column B, /i, ɪ, e, æ, a, o, u/ phonemes are all relegated to the level of a vowel called schwa [ə], which carries the weak stress. Native speakers of English unconsciously that one can derive a word from another by addition the derivational morphemes like *-tion*, and *-ance* to the verb roots to form nouns, and *-ic* and *-al* to noun roots to convert them into adjectives: but it is this very fact that goes unheeded by the non-native speakers of English, making a confusingly hard case of learning.

The Nature of Stress in English and Turkish: A Comparison and Contrast

The Turkish students generally have a weak distinguishing attitude towards the learning of lexical and sentence stress patterns of English. Because English is a *stress-timed language*, Turkish students, being under the influence of *syllable-timed nature* of Turkish, loosen their phonetic motivation in picking up the mobility of stress in English. In English, there is a rhythm in which stressed syllables come into being at regular

intervals of time, and the length of an utterance depends on the number of stresses. This fact is just the opposite in Turkish, which is an agglutinative language wherein the length of an utterance depends on the number of syllables.

The Mobility of Stress in English

There is a stress shift in connected speech in English. English sentence stress most commonly falls on a special group parts of speech words called content words- *nouns, verbs, adjectives, and adverbs*- that contain new information. Emphatic speech can be used by any speaker who wants to emphasize any syllable or word, or any words that s/he wishes to highlight. A stress shift depends on whether or not a word or a phrase is followed by a noun carrying a strong stress. If in them there is a ***tonic stress***, which is the most important stress of a sentence, these words or phrases keep their usual stress patterns.

At the lexical stress level, the addition of prefixes and suffixes borrowed from Greek and Latin accelerate the mobility of stress. Even though the primary stress mainly falls on the content words, it can be seen on many borrowed prefixes and suffixes. For example, *fáme* gets to be *ínfamy* with the addition of the latin-originated prefix *in-*. Similarly, the noun *ímpulse* becomes an adjective as *impúlsive* with the addition of a suffix like *-ive*. The noun *périod* is converted into an adjective form with a stress pattern like *periódic*. Again, the noun form *pérson* changes into *persóna* in its plural form with the addition of a suffix like *-a*. So the borrowed prefixes and suffixes from Greek and Latin trigger the mobility of stress in English

Conclusion

Stress is the most confusing aspect of intonation for non-native students of English. The existence of four different stress phonemes in English and their mobility in lexical and sentence stress give hard times to the Turkish student teachers or teachers-on-the-job. The term stress and accent are often used interchangeably, but accent is more frequently an over-all term for any system of obtaining emphasis on particular syllables, whereas stress is one type of accent (Demirezen 1986: 108). The change of / i, ɪ, e, æ, a, o, u / phonemes into /ə/ phoneme through a phonological shift called ***phonemic reduction*** creates a stress learning difficulty for students, student teachers

and regular teachers in Turkey. When we add the other accents like Received Pronunciation of England, General American (GA), Canadian English, Australian English, or the other Englishes spoken in the world, the learning of English without an accent becomes impossible.

The change / æ/ to /ə/ is not noticed by the Turkish learners of English. This is obviously due to the mobility of English, which converts nouns into adjectives, and adjectives into adverbs. In the English vocabulary stock, sometimes the same noun can have two different pronunciations as seen in the word **adult**, which is articulated as [ædʌlt] or [ədʌlt]. Similarly, as a noun form, the word **address** can be pronounced as [ædɾes] or [ədɾés]

Dictionary of Contemporary English: The Living Dictionary, 2006: 6-7; *Longman Dictionary of American English: New Edition*: 2005: 4-5; Cambridge Dictionary of American English, 2000:4-5), but when its verb form, too, carries the noun form stress as [ədɾés], the difficulties escalate. There are hundreds of words carrying the noun and verb forms in the same stress pattern. It is hoped that the model, which is called the **audio-articulation method**, utilized in this article, will solve this pronunciation difficulty to a greater extent.

A MODEL OF PRONUNCIATION TEACHING FOR /æ/ AND /ə/ CONTRAST

1. Motivation-warm up

Instructor: Hello students? How are you all today?

Students: Hi, sir/Mam. We are fine. What about you?

Inst: Thank you all, I am fine too.

2. REVIEW THE PREVIOUSLY TAUGHT MATERIAL

Inst: Students, what did we study in our previous lesson?

Stdns: We worked on the phonetic explanation of the [æ] phoneme in English.

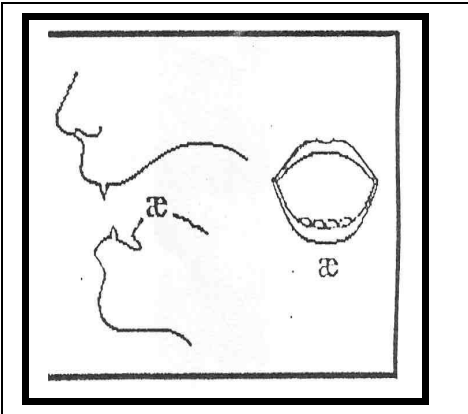
Inst: Very well, students now let's take a look at the following exercises.(S/he gives the following diagnostic test to the students in class in form of oral questions, paying attention to the pronunciation of the words given in the second column:

- | | |
|--|--------------|
| 1. He has always been..... ..towards married woman. | a. accent |
| 2. He..... addressed envelops all morning. | b. Canadian |
| 3. There are mountains..... | c. invalid |
| 4. I refuse to..... myself with that traitor. | d. career |
| 5. The policethe refugees. | e. addressed |
| 6. He is a realcitizen. | f. ally |
| 7. "Fraternity" is a(n).....idea. | g. inland |
| 8. He's hoping for ain social work. | h. gallant |
| 9. He has a terrible..... in French. | i. harassed |
| 10. My uncle is an.....and he lives in a nursing home. | J. abstract |

(S/he realizes that a correct pronunciation of [æ] and [ə] is not properly still settled yet. S/he realizes that a total review of them is necessary).

Inst: Now, we must review the correct articulation of the [æ] and [ə] phonemes. (The instructor re-explains the phonetic features of the problem-causing [æ] phoneme to Turkish students by making comments on the following figure (Adapted from Baker 1992:12):

In the articulation of the [æ] phoneme in the English language, the jaw is in the lowest position; in other words, the jaw is lowered down in maximum. That's why the [æ] phoneme is ***defined as a front, low, lax and unrounded vowel.***

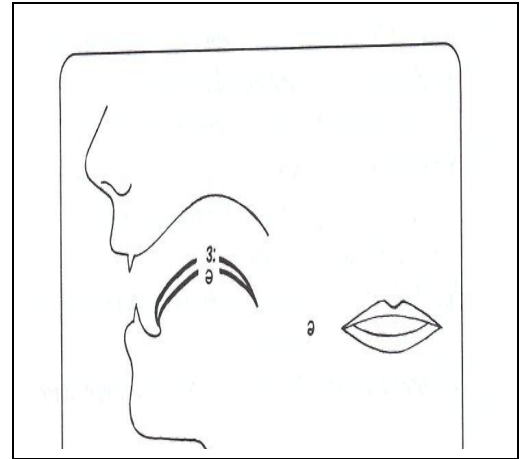


3. PRESENTING THE NEW TOPIC

Inst: Students, today's topic is the [ə] phoneme in RP; in American English, schwa is described as [ɜ:]. Now let's take a look at the following picture of [ə, ɜ:] and compare it with the [æ] phoneme:

1991:42:

In the production of the schwa phoneme, air stream coming from the lungs is modified the middle of the mouth while the tongue is raised up towards middle of the mouth as the lips are pursed, allowing a small hollow for the escape of the air stream through the lips.



It must be borne in mind that in RP schwa is indicated as [ə] and in some books on General American (GA) as [ɜ:]. The schwa phoneme is described as mid central unrounded lax vowel.

a. Preparing a CORPUS

The instructor prepares a corpus of 80 to 100 words that exhibits a comparison and contrast of [æ] and [ə] phonemes. S/he aims to develop the examples to be drilled in class from this very corpus. S/he practices the items in the corpus in class in form of single or in choir repetitions in adequate doses:

carrier [kæriə]

harass [hæɾəs] (n)

address [ædres] (n)

career [kəriə]

accent [æksənt, æksent] (n)(GA)

invalid [ɪnvələd] (n)

harass [hæɾəs] (v)

address [ædɾés] (v)

academy [əkædəmi]

adapted [ədæptəd]

analyze [ænalaiז]

Canada [kænədə]

academic [ækədəmɪk]

adaptation [ədəpteɪʃən]

Arap [æɾəp]

analysis [ənæləsəs]

| | |
|-----------------------------------|--|
| gallant [gəlænt] (adj.) | idiot ['ɪdi:ət] |
| invalid [ɪnvæləd] (adj.) | diplomat [dɪpləmæt] |
| affix [əfɪks] (v) | Arabian [ə'reɪbiən] |
| gallant [gælənt] (n) | magic [mədʒɪk] |
| affix [əfɪks] (n) | imagery [ɪmədʒɪ] |
| inland [ɪnlənd] (adj) | idiotic [ɪdi:ætɪk] |
| addict [ədɪkt] (n) | magician [mədʒɪʃən] |
| accent [əksənt, æksent] (v)(RP) | imaginary [ɪmədʒənəri] |
| inland [ɪnlænd] (adv.) | Japan [dʒə'peɪn] |
| addicted [ədɪktəd] (adj.) | annex [ənekks] (v) |
| adult [ədʌlt] | agile [ədʒəl] |
| adult [ədʌlt] | Japanese [dʒæ'pəni:z] |
| and [ənd] (weak form) | agility [ədʒɪlɪti] |
| than [ðæn] (strong form) | that [ðæt] (strong form) |
| advantage [ədvæntɪdʒ] | farmland [fɑ:mlænd] |
| can [kən] (weak form) | addict [əd'ɪkt] |
| has [hæz] (strong form) | laboratory [læbərətɔ:ri, -ov] (GA) |
| advantageous [ədvəntɪʒəs] | abacus [ə'bækəs, əbæ'kəs] |
| farmland [fɑ:mlənd] | ally [ə'laɪ, ə'láɪ] (n) |
| and [ənd] (strong form) | absent [əbsənt] (adj.)(RP) |
| abstract [əbstrækt] (v)(RP) | alloy [ə'lɔɪ, ə'lóɪ] (n) |
| and [ənd] (weak form) | ally [ə'láɪ, ə'laɪ,] (v) |
| can [kæn] (strong form) | absent [əbsent] (v), (RP) [əbsənt] (v) |
| has [hæz] (weak form) | alloy [ə'lóɪ, ə'lɔɪ] (v) |
| abducted [əbdʌktəd] (v) | annex [ənekks] (n) |
| that [ðət] (weak form) | abduct [əbdʌkt] (n) |

than [ðən] (weak form)

paprica [pæprɪkə] (RP)

paprica [pəprɪkə] (GA)

paralyze [pæɾəlaɪz]

laboratory [ləbɔːrətɹi]

abstract [æstrækt] (n)(RP)

paralysis [pəɾæləsəs]

photographic [fəʊtəɡɾæfɪk]

b. Establishing the Minimal Pairs

The minimal pairs are, in fact, striking contrasts in place, points, and manner of articulations, promoting a comparative and contrastive awareness in pronunciation (Nilsen and Nilsen, 1973; Baker, A. and Goldstein, S.1990). S/he practices them in class in small doses without boring the students.

Versus

carrier [kæɾɪəɾ]

gallant [ɡælənt] (n)

invalid [ɪnvələd] (adj.)

abstract [æstrækt] (n)(RP)

abduct [æbdʌkt] (n)

address [ædɾes] (n)

addict [ædɪkt] (n)

accent [æksent] (n)(GA)

career [kəɾɪəɾ]

gallant [ɡəlænt] (adj.)

invalid [ɪnvələd] (n)

abstract [əbstrækt] (v)(RP)

abduct [əbdʌkt] (v)

address [ədɾés] (v)

addict [ədɪkt] (v)

accent [æksént] (v)(GA)

c. Using Tongue Twisters From the Minimal Pairs

The following tongue twisters are practiced in class in form first the instructor's exhortations, and then, the students imitate and repeat them:

(i)

A career

A gallant career

A gallant career

A harassed but gallant career

(ii)

An addict

An adult addict

An adult invalid addict

An Arabian adult invalid addict

(iii)

(iv)

An accent
An adapted accent
An adapted Canadian accent
An adapted academic Canadian accent
Japan

(v)
A carrier
A diplomatic carrier
A diplomatic advantageous carrier
A diplomatic advantageous carrier in Canada
analysis

(vii)
A magician
An imaginary magician
An imaginary adult magician
An imaginary adult magician full of magic

(xi)
A carrier
An abducted carrier
An abducted carrier in Canada
An abducted Canadian carrier in Canada
Japan

A Japanese
A Japanese in Japan
A Japanese address in Japan
An invalid Japanese address in

(vi)
An analysis
An analyzed analysis
An analyzed adapted analysis
An analyzed adapted harassing

(viii)
A farmland
An inland farmland
An Arabic inland farmland
An Arabic annexed inland farmland

(x)
A Japanese
A Japanese in Japan
A Japanese address in Japan
An invalid Japanese address in

d. Doing Some Recognition Exercises:

Instr: Students, now I'm going to articulate some words. If you hear the [æ] phoneme say (1), and if you hear the [ə] phoneme, say (2). Here is an example: *access* (v), Ahmet, which phoneme did you hear?

Ahmet: It is (2)!

Instr: Good! Now, Let's go on. Murat, *gallant*?

Murat: It's (1).

Instr: Correct. İsmail, *career*?

İsmail: It's (2).

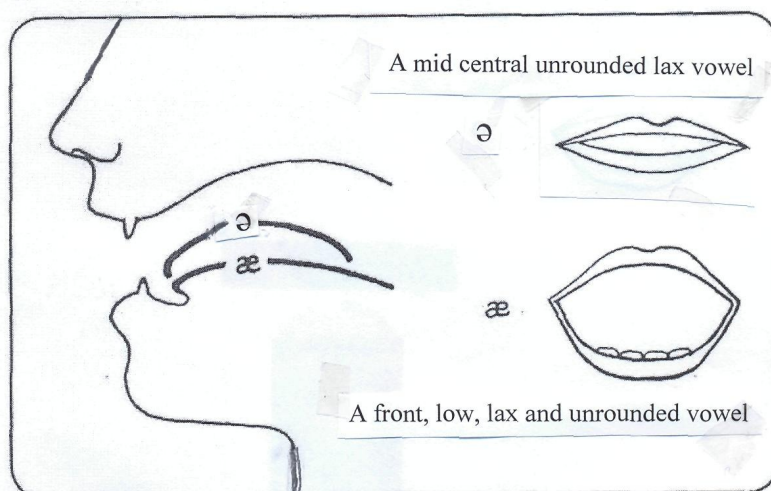
Instr: Well done, İsmail.

(The exercising goes on as the time allows.)

5. GIVE THE RULE

Instr: Students, now it is the RULE TIME. Please lend me your ears:

The [æ] phoneme is defined as a *front, low, lax and unrounded vowel*. The schwa phoneme is described as *mid central unrounded lax vowel*. The jaw drops down in maximum by opening the mouth, whereas In the production of the schwa phoneme [ə], the air stream coming from the lungs in modified right in the middle of the mouth while the tongue is raised up towards middle of the mouth as the lips are pursed; in the mean time, a small hallow is allowed for the escape of the air stream through the considerably pursed lips; that's why, the schwa phoneme is described as *mid central unrounded lax vowel*, as seen in the following figure:



6. GOING ON WITH FURTHER EXERCISES

The instructor practices the following exercises in class by calling on the students one by one or in group repetitions:

a. Using the Minimal Sentences

1. She has a bad CARRIER / CAREER.
2. Jack's an INVALID / INVALID man.
3. A CANADIAN lives in CANADA.

4. It is normal for an IDIOT to do IDOTIC things
5. Peter will study hard AND /AND will pass the test.
6. No leader can ALLY / ALLOY the disunited nations.
7. I think that you are not a GALLANT/GALLANT person.
8. Seeing a MAGIC / MAGICIAN is a rare incident around here
9. In order to reach the village, we drove INLAND / INLAND.
10. That's an ABSTRACT / ABSTRACTED philosophical concept.
11. A teacher with a non-native ACCENT / ACCENTED skill is no good.
12. Jane always has PAPRICA (GA) / PAPRICA (RP) with her meal.
13. Can a patriotic JAPANESE live out of JAPAN for a long time?
14. Can small children think in ABSTRACT / ABSTRACTED terms?

b. Using Sentences with Contextual Clues

1. I CAN CAN the CANS.
2. AFFIX the stamp under the AFFIX.
3. I CAN hold the hot CAN in my hand.
4. This is a thin BAT, BUT(weak) not a fat bat
5. We drove INLAND to reach the INLAND town.
6. That word means "ALLOY", not "ALLY".
7. "PARALYSIS" does not mean to "PARALIZE".
8. The ADDRESSED ADDRESS on the road sign is wrong
9. The job application of this INVALID person is INVALID.
10. You must ACCENT the words to speak with a native ACCENT.
11. Jane ABSENTED herself from the meeting as Tarzan was ABSENT.
12. The invitation card was wrongly ADDRESSED to OUR new ADDRESS.
13. That juvenile ADDICT had got ADDICTED to Marijuana to years ago.
14. The ABSTRACT of that article is BADLY ABSTRACTED by the editor.

c. Read loudly the following passage by paying attention to the words in capitals:

JAPAN is for JAPANESE people only. To be PATRIOT is the prime CAREER of a JAPANESE MAN. A JAPANESE MAN is not an IDOT and CAN never do IDIOTIC things. A JAPANESE ADULT HAS as ADDICTION to be a PATRIOT. The ADDRESS of the JAPANESE emperor, called Hirohito, HAS become an ALLOY for the togetherness of JAPANESE nation.

7. MAKE A SUMMARY

Instructor: All right, it is time to make a summary. (S/he goes back to the rule given in step (5), re-explains it creatively in a deductive or inductive way.

8. GIVE AN ASSIGNMENT

Instructor: Students, here are your assignments:

1. Each student will find out two minimal pairs that are not given in corpus (3a).
2. Each student will prepare 5 tongue twisters as seen in 3c
3. Each student will prepare 5 minimal sentences as given in 6a.
4. Each student will prepare 5 sentences with contextual clues as given in 6b.

Instructor: Thank you all for your patience. The time is up. See you in the next lesson. Now, the class is dismissed (The bell rings).

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