

Morphologically driven underapplication, lexical exceptions, loanword phonology and foreign language acquisition/speech. Which is their lowest common denominator?

Clàudia Pons-Moll (Universitat de Barcelona)

claudia.pons@ub.edu

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- *20th Manchester Phonology Meeting*, Manchester University, May 2012

NB (1): As I am still working on it, comments are very welcome!

NB (2): The data are especially easy to follow in the poster document.

Poster (also delivered)

1. INTRODUCTION AND GOAL

Languages exhibit a set of phonological processes which underapply due to morphological reasons, which have lexical exceptions and which show a different behavior in loanword phonology. The purpose of this paper is to draw attention to the correlation between these three phenomena, and to investigate its consequences on foreign language acquisition /speech. This paper departs from the observation that those processes that underapply in a given language due to morphological reasons tend to coincide with those processes that have more lexical exceptions and with those processes which exhibit a peculiar behavior within loanword phonology. Overall, a gradation can be made between the processes which meet all these three factors, the processes which meet just some of them and the processes which do not meet any one. On the other hand, there is a nice correlation between this gradation and the processes that show *intralinguistic variation* (dialectal variation) and the processes that don't: those processes that never *underapply* consistently in the totality of the dialectal varieties of a given language, whereas those processes that do *underapply* don't *apply* consistently —i.e. show variation— across the dialectal varieties of a given language. It seems that these facts should bring about a specific division between phonetically and phonologically driven processes, and the subsequent division of markedness constraints, and our expectation is that this must have significant consequences in the acquisition of a second language. The purpose of this paper is to provide empirical evidence in favor of this expectation. In order to illustrate our argument, we will focus on the phonology of Catalan, although it can be extended to the behavior of other languages.

2. DIFFERENTIAL IMPORTATION AND PHONOLOGICAL PRODUCTIVITY

An intriguing facet of loanword adaptation that still requires an explanation is that of *differential importation*. Differential importation refers to the fact that, among the structures not allowed in the native phonology of a specific language, only a partial subset is imported to its loanword phonology (Kang 2010). It has been observed that certain constraints against specific structures active in the native phonology of a language are more prone to be relaxed

or violated than others in the loanword phonology of the same language (Holden 1976, Itô & Mester 1995, Davidson & Noyer 1997, Broselow 2009, Kang 2010). And this circumstance has been often interpreted as a consequence of the degree of strength (or the degree of productivity) of native constraints: the greater the strength or productivity of the native constraint, the more likely it will be active or «visible» in loanword phonology, a hypothesis labeled *Magnetic Attraction* by Holden (1976). Or it is also regarded as a consequence of the «natural» (Chen 1973) or the «essential» character of certain constraints within a specific language, in the sense that they «define the basic syllable canons and other central aspects of the language» (Itô & Mester 1999: 65).

One of the purposes of this paper is to contribute to a better understanding of differential importation by showing how the *novel structures* that emerge in the loanword phonology of a language are precisely the ones that emerge in learned words—in the form of «lexical exceptions»—and, more significantly, the ones that can be generated due to morphological reasons, such as paradigmatic pressure or the need to realize a specific morpheme. We provide empirical evidence that novel or unattested structures in the etymologically older or «core» set of words of the language, tend to emerge consistently in the *productive phonology* of the language, precisely because of the weakness or *lack of productivity* of the markedness constraints that militate against them, with respect to other markedness constraints, which are strong or productive enough to avoid underapplication in any of the depicted situations.

Overall, this paper takes as its starting point the observation that there exists a noteworthy correlation between the processes that exhibit a peculiar behaviour within loanword phonology, the processes that underapply in a given language due to morphological reasons and the processes that have more «lexical exceptions». The same correlation also exists between the processes that exhibit a regular behaviour within the loanword phonology of a specific language, the processes that do not underapply due to morphological reasons and the processes that have no lexical exceptions. In Catalan it is possible to find many instances of these correlations, which are not always neat but consistent enough to be considered (see § 3).

3. REBELLIONS WITHIN THE PHONOLOGY OF CATALAN

3.1. For instance, the **processes of deletion of posttonic *-n* and *-r* in (absolute) word-final position** (*canço*[n]eta ~ *cançó*[n]s ~ *cançó*[Ø] 'song dim.' ~ 'song pl.' ~ 'song sg.'; *carrer*[ó] ~ *carre*[Ø] ~ *carre*[Ø]s 'street dim.' ~ 'street sg.' ~ 'street pl.'). active in most varieties of Catalan, are processes which show a totally discrepant behaviour in loanwords (*canca*[n] 'Can Can', *toboga*[n] 'toboggan'; *amat*[er] 'amateur', *au-p*[er] 'au pair'), many instances of morphologically driven underapplication (*Cat. enté*[n] '(s/he) understands', *cantara*[n] '(they) will sing'; *Insular Cat. ma*[n] '(I) order', *conside*[r] '(I) consider'), and many lexical exceptions (*so*[n] 'sleep', *na*[n] 'midget'; *ace*[r] 'steel', *ma*[r] 'sea'). See A in the Appendix-1.

3.2. Likewise, the **process of vowel reduction** of [é], [é] and [á] to [ə] in unstressed position, active in most Eastern Catalan varieties (*c[a]sa* 'house' ~ *c[ə]seta* 'house dim.', *m[é]s* 'month' ~ *m[ə]set* 'month dim.'), exhibits a totally irregular behaviour in words of more recent introduction (*mòd[e]m*, *v[e]det* 'music hall star (from French 'vedette')'; *Maj. Cat. v[e]rbena* 'open-air dance', *v[e]rmut* 'vermouth'), underapplies due to paradigmatic pressure in the phonology of Majorcan Catalan (*v[é]nt* 'wind' ~ *v[e]ntet* 'wind dim.', *esp[é]ra* '(s/he) waits' ~

esp[e]ram ‘(we) wait’), and has many lexical exceptions in all Eastern varieties (*class[e]* ‘class’, *Ter[e]* ‘truncated form for Teresa’, *Sòcrat[e]s*; *Maj. Cat. p[e]riodista* ‘journalist’, *p[e]l·lícula* ‘movie’). See B in the Appendix-1.

3.3. The **process of cluster reduction of word-final clusters** made up of a homorganic lateral or nasal followed by a stop, active in some varieties of Catalan (*sa[nt]a* ~ *sa[n]* ‘saint fem.’ ~ ‘street masc.’; *a[lt]a* ~ *a[l]* ‘tall fem.’ ~ ‘tall masc.’), has no lexical exceptions, but many instances of morphologically driven underapplication (*reso[lt]* ‘solved’ *mò[lt]* ‘milled’; *Eiv. Cat. ca[nt]* ‘(I) sing’, *sa[lt]* ‘(I) jump’), and considerable variation in loanwords (*PowerPoi[nt~nØ]*, *Pai[nt~nØ]*, *Ka[nt~nØ]*). See D in the Appendix-1.

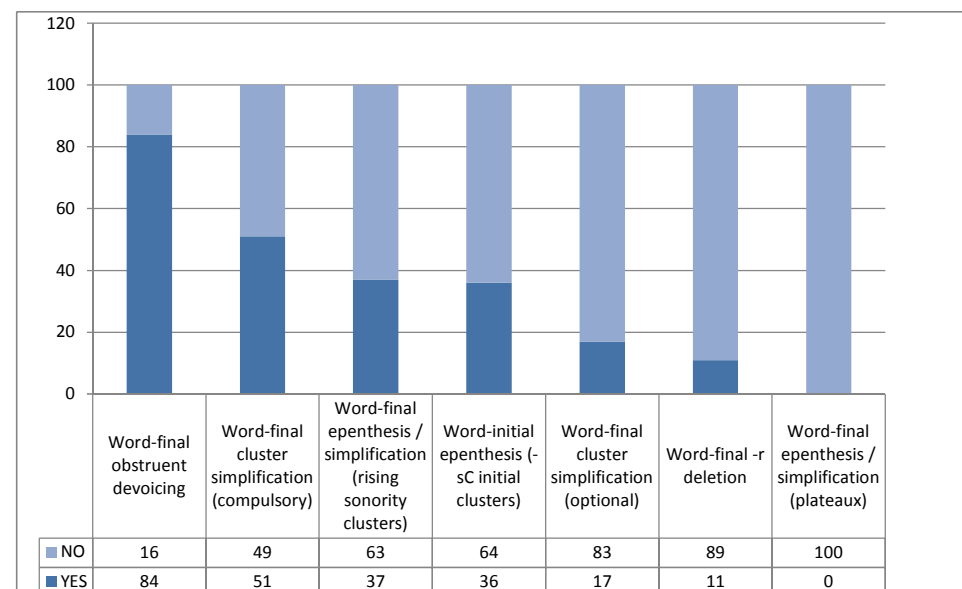
3.4. Finally, **epenthesis in word-final clusters** to avoid a Sonority Sequencing Principle violation or a Sonority Gradiency violation, active in all varieties of Catalan (*centr[ə]* ‘center’, *retaul[ə]* ‘altarpiece’), does not generally show lexical exceptions but it does show morphologically driven underapplication in Balearic Catalan (*com[pr]* ‘(I) buy’, *en[tr]* ‘(I) enter’), and also a peculiar behaviour in loanwords (*ma[jl]* ‘email’, *gaso[jl]* ‘gasoil’). See C in the Appendix-1.

3.5. On the other hand, there are processes which are never challenged in any of the depicted circumstances, like **word-final obstruent devoicing** (i.e., *llo[β]a* ‘wolf female’ ~ *llo[p]* ‘wolf male’; cf. *pu[p]* ‘pub’, *clu[p]* ‘club’) or **epenthesis in word-initial sC- clusters** (i.e., *[ə]steps*, *[ə]Sting*, *[ə]stand*, *[ə]sport*, etc.). See E and F in the Appendix-1.

4. CONSEQUENCES ON FOREIGN AND SECOND LANGUAGE ACQUISITION/ SPEECH

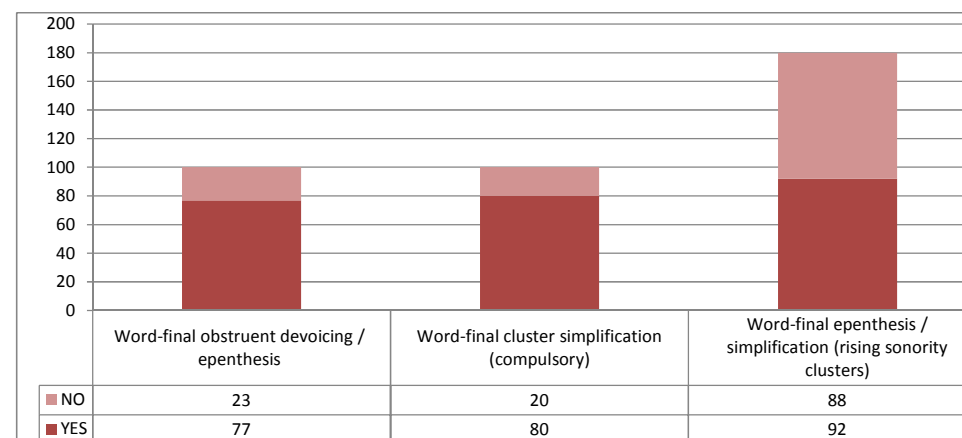
50 native speakers of Catalan with an intermediate / a proficiency level in English and French were recorded reading 2 texts (written in English and French) which contained several occurrences (about 200) of the phonic structures targeted by the processes depicted above during about 2.50–3 min (see *the text* in the Appendix-2). The same 50 native speakers were recorded uttering the same occurrences in isolation and within sentences (see *the sentences* in the Appendix-2). Up to now, a sample of 26 native speakers has been analyzed. The analysis of the production of these 26 native speakers confirm the prediction made above, with a gradation from *quasi* compulsory phonological processes towards absolutely avoidable ones:

4.1 Results for English readings



- Correlation valid for all cases, except for word-initial epenthesis (36 vs. 64). Expectation according to § 3.5: more cases with word-initial epenthesis.

4.2. Results for French readings



B. VOWEL REDUCTION OF [é], [ê] AND [á] TO [ə] IN UNSTRESSED POSITION*Regular phonology*

(7) Catalan

c[a]sa ‘house’ ~ c[ə]seta ‘house dim.’

m[é]s ‘month’ ~ m[ə]set ‘month dim.’

m[é]l ‘honey’ ~ m[ə]lós ‘honeyed’

Underapplication → YES (very frequent)

(8) Catalan

v[e]nt ‘wind’ ~ v[e]ntet ‘wind dim.’

esp[e]ra ‘(s/he) waits’ ~ esp[e]ram ‘(we) wait’

Lexical exceptions → YES (several)

(9) Catalan

class[e] ‘class’

Balm[e]s ‘proper name’

bas[e] ‘base’

cin[e] ‘truncated form for cinema’

Ter[e] ‘truncated form for Teresa’

Sòcrat[e]s ‘Socrates’

(10) Majorcan Catalan

p[e]riodista ‘journalist’

p[e]l·lícula ‘movie’

m[e]dicina ‘Medicine’

m[e]diterrani ‘Mediterranean’

f[e]licitat ‘happiness’

v[e]locitat ‘velocity’

Loanword exceptional behavior → YES (quasi-systematic)

(11) Catalan

vàt[e]r

mòd[e]m

v[e]det

R[e]psol

(12) Majorcan Catalan

v[e]rbena

v[e]rmut ‘open-air dance’

Intralinguistic variation → YES (cf. distinction between western and eastern dialects)

C. Epenthesis in word-final clusters to avoid a Sonority Sequencing Principle violation or a Sonority Gradiency violation*Regular phonology*

(13) Catalan

centr[ə] cf. centr-al

‘center’ cf. ‘central’

retaul[ə] cf. retaul-et

‘altarpiece’ cf. ‘altarpiece dim.’

Underapplication → YES (very frequent)

(14) Balearic Catalan

com[pr] ‘(I) buy’

en[tr] ‘(I) enter’

ensu[kr] ‘(I) add sugar’

co[pr] ‘(I) earn’

Lexical exceptions → YES (some)

(15) Catalan

saur ‘dark yellow’

vair ‘made of two colours (adj.)’

cuir ‘leather’

rail ‘rail’

Loanword exceptional behavior → YES / NO

(16) Catalan

ma[jl]

Gma[jl]

gasol[jl]

t[ajm]es

K[aj]le

Intralinguistic variation → NOT REALLY

D. Cluster reduction in word-final homorganic lateral / nasal + stop clusters*Regular phonology*

(17) Catalan (some varieties)

sa[nt]a ~ sa[n]

‘saint fem.’ ~ ‘street masc.’

a[lt]a ~ a[l]

‘tall fem.’ ~ ‘tall masc.’

ca[mp]ament ~ ca[m]

‘camp’ ~ ‘countryside’

Underapplication → YES (frequent)

(18) Catalan (some varieties)

reso[lt] ‘solved’

mò[lt] ‘milled’

(19) Eivissan

ca[nt] ‘(I) sing’

sa[lt] ‘(I) jump’

aca[mp] ‘(I) camp’

Lexical exceptions → NO (few)

(20) Catalan

vo[lt]

...

Loanword exceptional behavior → YES / NO (not systematic)

(21) Catalan

PowerPoi[nt~Ø]

Pai[nt~Ø]

Ka[nt~Ø]

Co[lt~Ø]

Go[lt~Ø]

Intralinguistic variation → YES (substantial; some varieties have the process; some don’t)

E. Epenthesis in word-initial sC- clusters

Regular phonology

(22) Catalan

[ə]sperar ‘(to) wait’

[ə]stendre ‘(to) extend’

[ə]scola ‘school’

[ə]slau ‘slav’

[ə]smorzar ‘breakfast’

[ə]smicolar ‘to shatter’

Underapplication → NO

Lexical exceptions → NO

Loanword exceptional behavior → NO

Intralinguistic variation → NO

F. Word-final obstruent devoicing

Regular phonology

(23) Catalan

llo[β]a ‘wolf fem.’ ~ *llo*[p] ‘wolf male’

po[ð]ia ‘(s/he) could’ ~ *po*[t] ‘(s/he) can’

ce[y]a ‘blind fem.’ ~ *ce*[k] ‘blind masc.’

Underapplication → NO

Lexical exceptions → NO

Loanword exceptional behavior → NO

Intralinguistic variation → NO

Appendix 2

1. Targeted texts, words and sentences

TEXT 1. Read the following text at a rate that is natural for you:



The red telephone box, a public telephone kiosk designed by Sir Giles Gilbert Scott, was a once familiar sight on the streets of the United Kingdom. It has all but disappeared in recent years, replaced by a number of different designs. The few kiosks that remain have not been replaced because they are regarded as being of special architectural and historical interest.

The first standard public telephone kiosk introduced by the United Kingdom Post Office was produced by Somerville & Company in 1920 and was designated K1 (Kiosk no. 1). This design was not of the same family as the familiar red telephone boxes.

The red telephone box was the result of a competition in 1924 to design a new grander kiosk. The competition attracted designs from a number of noted architects. The Fine Arts Commission judged the competition and selected the design submitted by Sir Giles Gilbert Scott as the winner. The Post Office made a request that the material used for the design be changed from mild steel to cast iron, and that a slight modification be made to the door; after these changes, the design was designated K2. The kiosks were painted red so that they might be easily recognised from a distance by a person in an

emergency. In some rural areas the boxes were painted green so as not to disrupt the natural beauty of the surroundings. From 1927 K2 was mainly deployed in and around London. K3 designed in 1930, again by Gilbert Scott was similar to K2 but was constructed from concrete and intended for rural areas. K4 (designed by the Post Office Engineering Department and proposed in 1923) incorporated a machine for buying postage stamps on the exterior. Only 50 kiosks of this design were built. K5 was a plywood construction introduced in 1934 and designed to be assembled and dismantled and used at exhibitions.

In 1935 K6 was designed to commemorate the silver jubilee of King George V. K6 was the first standard telephone kiosk to be used throughout the country. Many thousands of K6 boxes were deployed in virtually every town and city and it became a British icon. K6 telephone boxes eventually began to be replaced in large numbers in the early 1990s. Thousands of old K6 kiosks were sold off at public auction. Some kiosks have been converted to be used as shower cubicles in private homes. In Kingston upon Thames a number of old K6 boxes have been utilised to form a work of art resembling a row of fallen dominoes.

In 1959 architect Neville Conder was commissioned to design a new box. The K7 design went no further than the prototype stage. K8 introduced in 1968 was designed by Douglas Scott and Bruce Martin. It was the first box to replace K6 in significant numbers, and the last design to be painted predominantly red.

Upon the privatisation of Post Office Telephone's successor, British Telecom (BT), the KX100, a more utilitarian design, replaced almost all the red boxes; a few remain, mainly in rural areas. The KX100 PLUS, introduced in 1996 featured a domed roof reminiscent of the familiar K2 and K6. Subsequent designs have departed significantly from the old style red telephone boxes.

In response to BT's plans to replace red boxes with more modern designs, several of the former have been listed.

Now, read the following underlined words:

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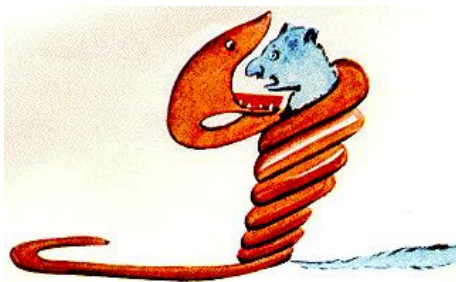
Now read the following sentences:

1. Could I speak to Mrs. Hodges, please?
2. Don't speak!
3. Speak louder, please.
4. These are children with special needs.
5. Have you seen *Slumdog millionaire*?
6. What does *slang* mean?
7. Americans experience side effects from inadequate sleep.
8. I like the Manhattan skyline.
9. The tiger is an endangered species.
10. Prices should remain stable for the next few months.
11. A person from our staff will be waiting for you.

12. Please, stamp and sign the form.
13. Yes, that's the point.
14. You're right, up to a point.
15. I'll make a point of watching them.
16. There is no point in feeling sorry for yourself.
17. Say "understand"!
18. I don't understand you.
19. Say "stand"!
20. I had to stand on the bus.
21. You really stand out from the crowd.
22. Say "stump"!
23. She left her stamp on the institute.
24. Apply a thick coat of paint.
25. Could you paint a pig?
26. This must be changed.
27. She changed a card.
28. Don't forget your bag.
29. Please, put your bag on the floor.
30. We'll meet at the club.
31. We'll meet at the club at 8h.
32. Could you paint a pig?
33. Could you paint a pig on the wall?
34. They don't deliver the mail on Sundays.
35. What are the main differences between these words?
36. We'll do this if all else fails.

TEXT 2. Read the following text at a rate that is natural for you:

Lorsque j'avais six ans j'ai vu, une fois, une magnifique image, dans un livre sur la Forêt Vierge qui s'appelait "Histoires Vécues". Ça représentait un serpent boa qui avalait un fauve. Voilà la copie du dessin.



On disait dans le livre: "Les serpents boas avalent leur proie tout entière, sans la mâcher. Ensuite ils ne peuvent plus bouger et ils dorment pendant les six mois de leur digestion".



J'ai alors beaucoup réfléchi sur les aventures de la jungle et, à mon tour, j'ai réussi, avec un crayon de couleur, à tracer mon premier dessin. Mon dessin numéro 1. Il était comme ça:



J'ai montré mon chef d'œuvre aux grandes personnes et je leur ai demandé si mon dessin leur faisait peur.

Elles m'ont répondu: "Pourquoi un chapeau ferait-il peur?"

Mon dessin ne représentait pas un chapeau. Il représentait un serpent boa qui digérait un éléphant. J'ai alors dessiné l'intérieur du serpent boa, afin que les grandes personnes puissent comprendre. Elles ont toujours besoin d'explications. Mon dessin numéro 2 était comme ça:



Les

de laisser
ouverts ou

grandes personnes m'ont conseillé de côté les dessins de serpents boas fermés, et de m'intéresser plutôt à la géographie, à l'histoire, au calcul et à la grammaire. C'est ainsi que j'ai abandonné, à l'âge de six ans, une magnifique carrière de peintre. J'avais été découragé par l'insuccès de mon dessin numéro 1 et de mon dessin numéro 2. Les grandes personnes ne comprennent jamais rien toutes seules, et c'est fatigant, pour les enfants, de toujours leur donner des explications.

J'ai donc dû choisir un autre métier et j'ai appris à piloter des avions. J'ai volé un peu partout dans le monde. Et la géographie, c'est exact, m'a beaucoup servi. Je savais reconnaître, du premier coup d'œil, la Chine de l'Arizona. C'est très utile, si l'on est égaré pendant la nuit.

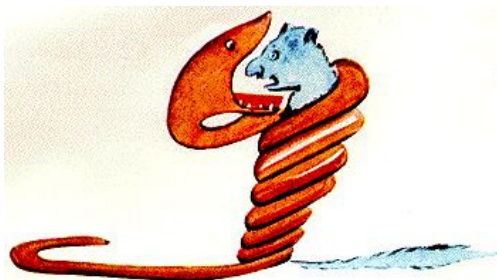
J'ai ainsi eu, au cours de ma vie, des tas de contacts avec des tas de gens sérieux. J'ai beaucoup vécu chez les grandes personnes. Je les ai vues de très près. Ça n'a pas trop amélioré mon opinion.

Quand j'en rencontrais une qui me paraissait un peu lucide, je faisais l'expérience sur elle de mon dessin n° 1 que j'ai toujours conservé. Je voulais savoir si elle était vraiment compréhensive. Mais toujours elle me répondait: "C'est un chapeau." Alors je ne lui parlais ni de serpents boas, ni de forêts vierges, ni d'étoiles. Je me mettais à sa portée. Je lui parlais de bridge, de golf, de politique et de cravates. Et la grande personne était bien contente de connaître un homme aussi raisonnable.

Now read the following underlined words:

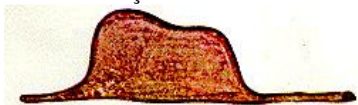
PREMIER CHAPITRE

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