On Phonological Exceptions, Sound Change,
and Learned Words *

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Phonologists have had difficulties narrowing down
the rules governing the deletion of Catalan /-n/ in
word final position. Usually, long lists of exceptions
are appended to the general rule of deletion in histo-
rical and synchronic grammars. Here we intend to
demonstrate that most of the alleged exceptions can be
accounted for historically and that true exceptions
are due to the learned nature of the words. The follo-
wing data, in phonemic transcription, should illustrate
the problem.[1]

DELETION OF /-n/

1. n → ∅ / V́ ___ #
a)

		plural	derivatives	
pá	(bread)	páns	panéra	(bread bin)
tɔ́	(tone)	tɔ́ns	tonalitát	(tonality)
kamí	(road)	kamíns	kaminál	(path)

b)

masc sg		fem sg	masc pl	fem pl
plá	(flat)	plána	pláns	plánes
sá	(healthy)	sána	sáns	sánes
oportú	(opportune)	oportúna	oportúns	oportúnes

c)

té	téns	ténen	tenír ~ tíndre
(he has)	(you have)	(they have)	(to have)
vé	véns	vénen	venír ~ víndre
(he comes)	(you come)	(they come)	(to come)

d)

redó	(round)	redóns	redonét	(roundish)
segó	(bran)	segóns	segonét	(fine bran)
blá	(soft)	bláns	blanét	(softish)

2. n → ∅ / V́ ___ #
a)

ɔ́me	(man)	ɔ́mens	omenét	(little man)
ɟóve	(young)	ɟóvens	ɟoventút	(youth)
ɔ́rge	(organ)	ɔ́rgens	organísta	(organist)

All the /-n/ deleting items in 1 are oxytones whose
underlying /-n/ surfaces when the word is modified by
a morpheme designating feminine gender, plural, or a
suffixal derivation. For the paroxytones in 2 (from
Latin proparoxytones), we obtain the same result in
Western Catalan.[2]

3.   plural   derivatives

  kárn   (meat)   kárns   karnisér   (butcher)
  ivérn   (winter)   ivérns ivernénk   (wintry)
  fórn   (oven)   fórns   fornét   (little oven)

4. sán   (saint)   sáns   santedát   (sanctity)
  jén   (people)   jéns   jenterjla (rabble)
  món   (mountain) móns   montíkle   (hill)

5. món   (world)   móns   mundiál   (world-wide)[3]
  segón (second)   segóns sekundári (secondary)[3]
  pregón (deep)   pregóns pregonéza (deepness)

6. sén (he feels) sénten (they feel) sentír (to feel)

7. ofén   ofénen   oféndre
  (he offends)   (they offend)   (to offend)
  vén   vénen   véndre
  (he sells)   (they sell)   (to sell)
  respjn   respjnen   respjndre
  (he responds)   (they respond)   (to respond)

8. pjn   pjnen   pjndre
  (she lays eggs)   (they lay eggs)   (to lay eggs)
  román   roménen   romándre
  (he remains)   (they remain)   (to remain)

9. joán   (John)   joáns   joanjt   (big John)
  nén   (child)   néns   ──────   ──────
  sjn   (sleep)   sjns   sonéta   (little sleep)

10. ùn#número# (one number)   número#í# (number one)
  bjn#jme#   (good man)   jme#bjt#   (good man)

11.   plural

  áton   (unstressed)   átons
  ozón   (ozone)   ozóns
  klán   (clan)   kláns
  jérmen   (germ)   jérmens
  jrgan   (organ) -biology-   jrgans

Items in 3 (Cn#) do not meet the structural descrip-
tion of the rule: n → ∅ / V ____#, while those words
in 4, 5, 6, 7 and 8 suggest an underlying dental stop
that is recoverable in some derivatives, yielding thus
the environment VnC#.

    The synchronic description of the final /-n/ dele-
tion phenomenon has leaned heavily on the concept of

idiosyncratic exceptions. With only three items as
explicit data ("tenir", "venir", and [fon]), Brasing-
ton (1972) concluded that the deletion of the /-n/ of
the 3sg forms of "tenir" and "venir" should be marked
as idiosyncratic, considering that most verbs present
the /-n/ retention feature:

$$n \longrightarrow \emptyset \ / \ \underline{\qquad} \# \ [-\text{verb}] \quad (\text{Brasington } 1972{:}116)$$

A similar treatment is found in Mascaró (1978) who
contends that items like /segón/ and /són/ "are simply
exceptions to N-deletion that cannot be characterized
but idiosyncratically" (1978:61). Mascaró proposes
the following rule which, due to its broadness, would
require a cumbersome number of diacritics to account
for the alleged exceptions:

$$\begin{bmatrix} +\text{nas} \\ +\text{cor} \end{bmatrix} \longrightarrow \emptyset \ / \ \begin{bmatrix} +\text{syll} \\ +\text{str} \end{bmatrix} \underline{\qquad} \#\#$$

Wheeler (1979) recognizes an underlying stop in some
final /-n/ retaining words and points out liaisons in
popular Barcelona speech that bring up the stop. Thus
[bázin] (let them go) recovers a -t- when the adverbial
pronoun hi is added: [bázinti] (let them go there).
Wheeler, however, being hindered by his synchronic
framework, cannot account for historical exceptions
like /món/ (world) and leaves the rule essentially with
the same constraints as his predecessors. He includes
a condition for those Eastern Catalan dialects with
/-n/ deletion in paroxytonic plurals, e.g.; /ómes/
(men).

$$\begin{bmatrix} +\text{nasal} \\ +\text{coronal} \end{bmatrix} \longrightarrow \emptyset \ / \ \begin{bmatrix} +\text{syllb} \\ \langle -\text{stress} \rangle_b \end{bmatrix} \underline{\qquad} \langle +c \rangle_a \#$$

condition: if a, then b.
(Wheeler 1979:274)

Wheeler also realizes that some exceptions such as
origen, organ and examen must be marked as [+learned]
with respect to the main rule.
    One would expect that historical phonologists
could have pinpointed more precisely the nature of /-n/
deletion and retention. After all, the wealth of infor-
mation on Latin, the parent language, and parallel
phenomena in other Romance languages should have helped
Catalan linguists to clarify this problem. Unfortuna-
tely, the uncritical reliance on analogy, the all pur-
pose crutch of language historians, has perpetuated a

series of patchy descriptions strewn with far-fetched
idiosyncrasies. This fallacy originated in Fouché's
study of /-n/ exceptions (1980:124 -reprint from the
1924 edition-). Fouché contended that the /-n/ reten-
tion in 3sg verb forms like /vén/ (he sells) and
/respɔ́n/ (he responds) must be due to analogy with 2sg
/-ns/ forms, e.g.; /véns/ (you sell), /respɔ́ns/ (you
respond). This proposal, however, fails to account
for the lack of /-n/ in /té/ and /vé/ (he has, he
comes), whose 2sg also contain /-ns/ forms: /téns/,
/véns/. Griera (1931:63) went along with Fouché's
tenet, and, what is more, so did Badía Margarit (1951:
225) who acknowledged Fouché when he discussed the
reasons for final /-n/ retention: "c) la -N final se
mantiene también en algunas formas verbales de 3.ª
persona del singular, por analogía con otras formas:
PONIT>pon pɔ́n ; DONET>ant. y dial. don dɔ́n ;
REMANET roman r̃umán ; parece que el inductor de estas
analogías ha sido la 2.ª persona, que lleva -n: TENES
tens téns , VENIS véns béns ". Since then, most
studies on Catalan final /-n/ (with the exception of
generative synchronic works) have appealed to either
analogy (e.g.; Rasico 1982:219 and Blasco Ferrer 1984:
51-52), or have claimed that /-n/ retention verbs do
not conform to the general rule (Roca-Pons 1973:186
and Duarte i Montserrat and Alsina i Keith 1984:206).
The arbitrariness of the analogical explanation for
exceptions is most evident when we compare two con-
flicting studies that rely on analogical levelling.
One of them attributes the /-n/ deletion in plural
paroxytones like /ɔ́mes/ (men) and /térmes/ (boundaries)
to analogy with the singular: /ɔ́me/, /térme/ (Rasico
1982:231). Conversely, Duarte i Montserrat and Alsina
i Keith (1984:207) postulate that words like /glá/
(acorn) have undergone final /-n/ deletion "gràcies al
seu ús freqüent en plural, glans". Therefore, analogy
is taken to act in either direction according to the
linguist's fancy. Furthermore, if analogy was respon-
sible for the elimination of /-n/ in Eastern Catalan
plural paroxytones, as Rasico suggests, why did it not
apply as well to plural oxytones?4 Also, why does
/redɔ́/<ROTŬNDU elide its final /-n/ whereas /segón/<
SEGŬNDU (with a similar historical environment for -n)
does not? Duarte i Montserrat and Alsina i Keith's
postulation that /segón/ has not undergone /-n/ dele-
tion because it is mainly restricted to the masculine
singular in regular speech (p.207) is not even accurate
on data, for both /segóna/ (fem.) and /segóns/ (masc.
pl.) are common in popular speech.
     We suggested above that the environment for excep-
tions should be either Cn# for items in 3 or nC# for

those words in 4, 5, 6, 7 and 8. Group 3 contains the
blocking consonant in the actual phonetic representa-
tion of the sg. nouns. In 4 and 6 the recovery of the
underlying consonant is effected through derivatives.
Groups 5, 7 and 8 pose some difficulties, however.
Thus in 5 /pregón/ does not yield any blocking /d/ in
derivatives[5], while in 7 and 8 the only /d/ is found in
infinitives[6]. Group 10 displays /-n/ retention of
words in proclitic position[7], but items in 9 and 11 do
not show any trace of consonantal blocking. Further-
more, items like /món/< MŬNDU and /segón/<SECŬNDU
contrast with /redó/< ROTŬNDU and /segó/< SECŬNDU, all
having an etymological -ND- cluster but yielding diffe-
rent results. On the other hand, verb forms like /pɔn/
<PONIT and /román/<REMANET do not originate from
Latin -ND- forms but retain the /-n/. Contrary to the
ad hoc analogical explanations aforementioned, we posit
a single rule of deletion that affected all items con-
forming to the intermediate historical pattern /-Vn#/.
To arrive at that stage, we propose first one rule of
reduction: nd> nn> n, e.g.; SECŬNDU⩾segónno⩾segóno⩾
segón⩾/segó/ (bran); and then one of epenthesis for
the infinitive of verbs of group 8, e.g.; PŌNERE⩾
/pɔnre/⩾/pɔndre/ which spread to the 3sg and preven-
ted the deletion of /-n/ in /pɔn/ and /román/. The
dental stop in verbs from group 7 are etymological,
e.g.; /vén/<VENDIT. Thus groups of words which, due
to their historical makeup, would have been expected
to shield the fall of /-n/ with a stop did not and
viceversa. Only by positing these intermediate stages
can we arrive to a satisfactory explanation of the
exceptions, i.e.; when the /-n/ deletion rule took
place, the changes of reduction and epenthesis must
have been present necessarily, i.e.; ROTŬNDU had
yielded |redón| and PONIT |pɔnd|. Also, in order to
account for the /-n/ retention in words from group 9
we must postulate a late duration of the -nn- cluster
in /ǰoán/< JOHANNES and in /nén/< *NINNU. The original
blocking element of /sɔn/< /sɔno/</sɔnno/< SOMNU is
recoverable in the forms of the verb /somiár/ (to
dream). Nevertheless, there are three historical
exceptions: /món/ (world), /segón/ (second) and /pregón/
(deep). These are learned words which never partici-
pated in the general reduction (cf. /segó/ (bran) also
from SECŬNDU, which underwent the change). To support
the differentiation between learned and common words
in Catalan, we may point at parallel occurrences in
two neighboring languages. In Spanish /múndo/,
/segúndo/ and /profúndo/ a /ú/ retention (instead of
an /ó/) betrays these words as learned (cf. /móndo/<

MŨNDŲ (clean, bare) and /óndo/< FŲ̃NDŲ (deep)). French
/səgɔ̃/ (second) contrasts with /sɔ̃/ (bran)<SECŨNDŲ,
while /mɔ̃d/< MŨNDŲ contrasts with /rɔ̃/< ROTŨNDŲ in its
retention of /-d/[8]. The proposal advanced here, there-
fore, calls for a general rule of -n deletion of the
type: (C)V∅#<(C)Vn#, e.g.; /bɔ́/ "good" (masculine),
but /bɔ́na/ "good" (feminine). Exceptions to this rule,
on the other hand, follow the conditioning environment:
(C)Vn#<(C)VnC, e.g.; /ón/ (where) but /ònt#és/ (where
is it?). A minor rule will assign to the lexicon a
group of specialized words like /ɔ́rgan/, /ozón/, etc.
as [+learned][9]. Likewise, proclitics will be marked as
non-deleting, e.g.; /bɔn#ɔ́me#/, but /ɔ́me#bɔ́#/. The
following rule formalizes what has been said:

$$\begin{bmatrix} +\text{nas} \\ +\text{cor} \end{bmatrix} \longrightarrow \emptyset \ / \ [+\text{syll}] \ \underline{\quad} \# \ \begin{bmatrix} \text{-proclitic} \\ \text{-learned} \end{bmatrix}$$

It must be emphasized that this rule does not represent
a contemporary stage of the language. This rule stands
for the reconstructed period of Catalan when the dele-
tion of /-n/ took place. Consequently, we assume that
all the items that fitted the structural description
Vn# underwent /-n/ deletion.
    We have attempted to delineate a principled
account of Catalan /-n/ deletion. In the process, two
main theoretical points have surfaced: 1. Historical
exceptions reflect an archaic phonetic residue caused
by external factors of a conservative tendency; for
example, ecclesiastical usage of some Romance words,
toponym and antroponym resistance to change, etc.
2. Unwarranted analogical levelling has been used too
often in historical linguistics to describe regular
sound changes which can be explained otherwise by
phonological rules. Specific sound changes are best
studied as overall phenomena. There is no a priori
reason for which verb forms should be marked as being
phonologically idiosyncratic with respect to the rest
of the lexicon. This is not to say that paradigms are
not susceptible to phonetic analogy. They are, as the
paradigmatic spread of /-d/ from the infinitives
/pɔ́ndre/ and /romándre/ indicates. Nevertheless, in
the case of Catalan /-n/ deletion, sound change must
have applied regardless of the grammatical nature of
the lexical item[10].

<div align="center">NOTES</div>

1. This transcription is based on the Valencian dialect spoken in the mountain areas of Alicante. Nevertheless, most of the data and the phonological phenomena here discussed are common to all Catalan dialects, with the only exception of the dialect of Ribagorza on the northwest limits of the Catalan speaking area which, according to Badía (1951:225), does not undergo final /-n/ deletion. For counter-evidence see Martí i Castell (1985:265-6): <u>camí-camíns</u> (road-roads). These words are written in the standard orthography from a phonetic transcription of the Ribagorzan dialect of La Litera.

2. In Eastern Catalan, however, final /-n/ is deleted in all the paroxytonic plurals, although it reappears in derivatives, e.g.; /žóbe/, /žóbes/ (young sg&pl), but /žobensá/ (youngster), /žobenéza/ (youth). In some Valencian dialects, the underlying /-n/ is productive even with nouns which have no final /-n/ etymologically, e.g.; /kafé/, /kaféns/, /kafenét/ (coffee, coffees, little coffee). Conversely, in the Catalan dialect of Roussillon there is a complete elision of /-n/ in both the singular and the plural, regardless of the position of the stress, e.g.; /má/, /más/ (hand, hands); /ɔme/, /ɔmes/ (man, men) (Fouché 1980:167). A transitional dialect, in this respect, seems to be the one spoken in the countryside of the province of Tarragona. Not only is there /-n/ retention in paroxytones, e.g.; /ɔmens/, /žóbens/, in "very high percentages" (Recasens Vives 1985:152), but there also exists non-etymological /-n/ insertion in the plural (as in Valencian), e.g.; /sofá/, /sofáns/ (sofa, sofas), as recorded by Recasens Vives in 33% of the cases in his fieldwork data (<u>ibid</u>). In this regard, it is worthy to mention the phonetic realization of etymo-logical /-nt/ among speakers of some Valencian dialects, particularly in the lowlands, e.g.; /parlánt/ (talking), /realmént/ (actually). (Cf. standard /parlán/, /realmén/).

3. The /u/< Ū retention sets off these derivatives as learned. The regular development from Latin Ū would have yielded /o/ in Catalan.

4. Among other aspects, Eastern Catalan contrasts with Valencian in the lax pronunciation of unstressed vowels, cf. [káza] (house), [ɔmens] (men) (Valencian); [kázə], [ɔməs] (Eastern Catalan). A lax articulation of unstressed syllables must be responsible for the loss of /-n/ in plural paroxytones. The fact that many speakers produce non-etymological -n's in oxytones but never in paroxytones (e.g.; /kafé~kaféns/ but /áire~ áires/ supports our observation on the influence that stress and tenseness exert on /-n/.

5. There exists however the relic form <u>Pregonda</u>< PROFŬNDA, a toponym on the island of Minorca.

6. The -d- in the infinitive suggests an under- lying -d in other forms of the verbal paradigm. Notice that dialects with /tíndre/ (to have) for the infini- tive (e.g.; Valencian), use the imperative singular form /tín/< CVnC, whereas those Eastern Catalan dia- lects with /tenír/ as their infinitive exhibit an /-n/-less imperative singular form: /té/< CVnV.   None the less, all Catalan dialects, regardless of their infinitive base (/tenír/~ /tíndre/), have a /té/ form for the 3sg but a /tínk/ form for the 1sg of the pre- sent indicative.   This vowel alternation suggests a combination of forms from both paradigms of the two infinitives.   See Nonell y Mas (1895:219-224) for a philological review of this phenomenon.

7. By proclitic here, we understand not only adjectives, pronouns and adverbs, but also nouns that, as compounds, are customarily employed along with their modifiers, e.g.; /panfígol/ (figbread), /vÈrjen#maría#/ (Virgin Mary).

8. In /prɔfš/<PROFUNDU, the retention of inter- vocalic -f- is irregular with respect to many other French words where it has been deleted.   Therefore, here we may also claim the distinctiveness of this word as learned.

9. Cf. /ɔ́rge/ (a musical instrument) and /ɔ́rgan/ (biology) from the common etymon ORGANU, and the minimal pair /segón/ (second) and /segó/ (bran) from SECŬNDU.

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REFERENCES

Badía Margarit, Antonio. 1951. <u>Gramática histórica catalana</u>. Barcelona: Editorial Noguer, S. A.

Blasco Ferrer, Eduardo. 1984. <u>Grammatica Storica del Catalano e dei suoi dialetti con speciale riguardo all'Algherese</u>. Tübingen: Gunter Narr Verlag.

Brasington, R.W.P. 1972. "The Treatment of Exceptions in Phonology", <u>Lingua</u> 29, 101-119.

DCVB = Antoni M. Alcover, Francesc de B. Moll. 1926- 1968. <u>Diccionari Català-Valencià-Balear</u>. Palma de Mallorca, 10 vols.

Duarte i Montserrat, C. and Alsina i Keith, A. 1984. _Gramàtica històrica del català_. Barcelona: CURIAL.

Ferrer Pastor, Francesc. 1976. _Vocabulari castellà-valencià i valencià-castellà_. Valencia: Gran Enciclopedia de la Región Valenciana.

Fouché, Pierre. 1980 (reprint of the 1924 edition). _Phonétique historique du roussillonnais_. Genève: Slatkine Reprints.

Griera, A. 1931. _Gramàtica històrica del català antic_. Barcelona.

Martí i Castell, Joan. 1985. _Coneguem els nostres parlars_. Barcelona: Generalitat de Catalunya.

Mascaró, Joan. 1978. _Catalan Phonology and the Phonological Cycle_. Bloomington, Indiana: Indiana University Linguistics Club.

Menéndez Pidal, R. 1940. _Manual de gramática histórica española_. Madrid: Espasa-Calpe, S. A.

Nonell y Mas, P. 1895. _Análisis morfològich de la llenga catalana antiga_. Manrèsa.

Rasico, Philip D. 1982. _Estudis sobre la fonologia del catala preliterari_. Barcelona: CURIAL (Publicacions de l'Abadia de Montserrat).

Recasens i Vives, Daniel. 1985. _Estudi lingüístic sobre la parla del Camp de Tarragona_. Barcelona: CURIAL (Publicacions de l'Abadia de Montserrat).

Roca-Pons, Josep. 1973. "Les formes subjacents i la morfologia catalana", _Actes del Tercer Col.loqui Internacional de Llengua i Literatura Catalanes_, 173-99. Oxford: Dolphin Book Co.

Romeu Jover, Xavier. 1983. _Manual de fonologia catalana_. Barcelona: Barcanova.

Saltarelli, Mario. 1970. "Fonologia generativa dell'algherese", _Celui de-al XII-lea Congres Internacional de Lingvisticǎ şi Filologie Romanicǎ_, 311-314. Bucureşti: Editura Academiei Republicii Socialiste România.

Veny, Joan. 1983. _Els parlars catalans_. Palma de Mallorca: Editorial Moll.

Wheeler, Max. 1979. _Phonology of Catalan_. Oxford: Basil Blackwell.