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THE DEVELOPMENT AND PRODUCTIVITY OF PREFIXES
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The formation of compound verbs by adding a prefix, which was usually derived from the adverbial use of a preposition in Proto-Indo-European, developed in Latin and continued in Romance. Let us examine such prefixes in verbs whose root is followed by the inchoative suffix, so that the pattern of word formation is as illustrated by engrandecer 'to enlarge':

prefix + root + inchoative affix + inflection
 en- -grand- -ec- -er

The verb en-grand-ecer is derived from the adjective grande 'big' plus the discontinuous element en-...-ecer, since there is no such verb as *grandecer. Such simultaneous addition of a prefix and a suffix to a root is known as parasynthesis, which plays an increasing role in the formation of inchoative forms in Latin and Romance (cf. Reiheimer-Ripeanu 1974, Malkiel 1941). In the history of parasynthetic inchoatives, there is a smaller variety of prefixes paralleled by a greater use of those that survive. Often, but not always, semantic factors contribute to the productivity of prefixed verbs.

Analyzed according to the roots from which they are derived, Latin inchoatives can be divided into deverbals, deadjectival, and denominatives as exemplified by the following:

Deverbal: CALESCERE 'to grow warm, hot'
 < CALERE 'to be warm'
 Deadjectival: DULCESCERE 'to become sweet'
 < DULCIS 'sweet'
 Denominative: FEBRESCERE 'to catch a fever'
 < FEBRIS 'fever'

Even though Latin, like other languages, has more nouns than adjectives or verbs, denominatives have relatively few forms among the inchoatives and the prefixed inchoatives:

	Inchoatives	Prefixed	Prefixed (%)
Deverbals:	140	85	61%
Deadjectivals:	83	23	28%
Denominatives:	67	19	28%

Examination of deadjectival and deverbal inchoatives is greatly helped by comparison with the denominatives in

the preceding table. Thus, the rule of formation of compounds with prefixes has applied most often to deverbal inchoatives and less frequently to deadjectivals and denominatives; such a difference is evident from the numbers and percentages of compounds showing that more deverbal inchoatives have taken on prefixes. Furthermore, the variety of prefixes is greatest among deverbals, as we can see from the following table showing the number of times various prefixes form compounds with deverbal, deadjectival, and denominative inchoatives:

	CON-	IN-	EX-	RE-	DE-	AB-	AD-	OB-	PER-
Deverbal:	12	10	12	9	10	3	6	7	8
Deadjectival:	4	7	5	1	1			3	2
Denominative:	5	3	1	5				1	1

	PRŌ-	PRAE-	SUB-	DIS-	INTER-	CIRCUM-
Deverbal:	2	2		2	1	1
Deadjectival:						
Denominative:		1	1	1		

A recent Latin grammar summarizes the meanings of the prefixes in a way that can be adapted for our study of compounds (Moreland 1977: 255-7):

CON-	'together (with); completely'	OB-	'toward, against'
IN-	'in, on; against'	PER-	'through; thoroughly'
EX-	'out'	PRŌ-	'in front of; forth'
RE-	'again'	PRAE-	'before'
DE-	'from; down; utterly'	SUB-	'under'
AB-	'away'	DIS- (DĪ-)	'apart'
AD-	'to, toward'	INTER-	'between'
		CIRCUM-	'around; on all sides'

The translations of the above prefixes fall into three classes of meaning: (1) locative prepositions like 'in', 'to', and 'under', (2) prepositional adverbs like 'together', 'out', and 'down', and (3) metaphorical derived intensives such as 'completely', 'utterly', and 'thoroughly'. Clearly, a verb root is more likely to undergo such a variety of semantic modifications than a noun root. This argument is supported by the rare denominative inchoatives that take a variety of prefixes, for such denominative inchoatives coexist with corresponding stative verbs derived from the same nouns. Thus, LŪCĒSCERE 'to begin to shine' may be compounded with the prefixes IN-, Ē-, RE-, DĪ-, and PRAE-, while CALLĒSCERE 'to become insensitive' may be prefixed by CON-, IN-, OB-, and PER-; significantly, beside LŪX (genitive LŪC-IS) 'light' and CALL-UM 'callus',

there also exist the statives LUC-ERE 'to shine' and CALL-ERE 'to be callous'. It could be argued either that the inchoatives were derived directly from the statives with prefixes, or that prefixed statives had enough influence on parallel inchoatives to permit a greater number of possible compounds.

The inchoative form, which is almost always intransitive in Latin, often develops a transitive meaning in Romance, but prefixes do not play a role in the change. Only one of the deverbal inchoatives owes its transitive meaning to a prepositional prefix; this verb is IN-OLESCERE 'to grow in; implant', which contrasts with the simple intransitive OLESCERE 'to grow'. Similarly, among denominal verbs, the prefix IN- imparts transitivity to the meaning of IL-LUCESCERE 'to grow light; to shine upon', which differs from intransitive LUCESCERE 'to begin to shine'. However, such verbs are exceptions. Although many verbs signifying emotion have transitive compound forms--such as PER-HORRESCERE 'to shudder greatly at', EX-PAVESCERE 'to fear greatly', and CON-TREMESCERE 'to tremble at'--these verbs show no contrast in transitivity with their simplex counterparts. Since most other compound inchoatives do not have transitive glosses, composition is not a major cause for the development of transitive inchoative forms in Latin.

Although prefixation did not transitivize verbs, it served important phonological and semantic purposes, for prefixes continually spread to new lexical items, many of which also underwent derivational suffixation. As we have already seen, while prefixes spread to more verbs, the number of prefixes did not increase but grew smaller. Suffixal additions often regularized paradigms, and in the history of prefixation, too, there was a trend towards regularity, since the Romance choice of prefixes is narrower than that of Latin. A comparative list of prefixes includes the results of changes over a considerable historical period, and that fact justifies the analysis of compounds by etymological as well as synchronic criteria. The list of prefixes joined to Latin inchoatives was compiled from the dictionary of Walde and Hofmann (1954, 1965), the Italian is according to Reynolds (1962), Spanish is from the RAE (1970), and French is gleaned from Dauzat (1968); the percentage indicates the proportion of compound inchoatives taking a given prefix:

Latin			Italian		
CON-	21	17%	in-	167	41%
IN-	20	16%	ad-	63	16%
EX-	18	14%	re(d)-	63	16%

(Latin)			(Italian)		
RE-	15	12%	s-	48	11.5%
DE-	11	8.6%	di(s)-	18	4%
OB-	11	8.6%	com-	13	3%
PER-	11	8.6%	de(s)-	10	2.5%
AD-	6	5%	e(s)-	9	2.2%
AB-	3	2%	pre-	6	1.5%
PRAE-	3	2%	tras-	3	.8%
DIS-	3	2%	inter-	2	.5%
PRŌ-	2	1.6%	per-	2	.5%
CIRCUM-	1	.8%	pro-	2	.5%
INTER-	1	.8%			
SUB-	1	.8%			
Spanish			French		
en-	105	55%	a-	50	60%
a-	35	18%	r(e)-	13	16%
de(s)-	19	10%	en-	10	12%
e(s)-	17	9%	é-	7	8.4%
re-	9	4.5%	dé-	1	1.2%
con-	7	3.5%	in-	1	1.2%
			pré-	1	1.2%

The total number of inchoatives and the number compounded with prefixes is indicated below:

	Total inchoatives	Prefixed inchoatives
Latin:	290	127 (44%)
Italian:	729	406 (56%)
Spanish:	226	192 (85%)
French:	208	83 (40%)

The above figures are to be taken critically because they reflect the comprehensiveness of the dictionary used as a source, but both numbers and percentages reveal the increasing use of fewer prefixes in compounds. An important cause of distortion is the number of items because a longer list of inchoatives will contain a greater number and proportion of compounds, which are usually less frequent. For example, Lewis (1969), which is a larger Latin dictionary than Walde (1954, 1965), offers 607 inchoative entries, of which 376, or 62%, begin with a prefix. However, even the smaller number of prefixed forms cited in the table shows that Latin with 127 compounds uses a greater variety of prefixes than Italian with 406 compounds or Spanish with 192. In addition, the curve of frequency is steeper in the modern Romance languages since the most frequent prefix in Latin is attached to only 17% of the inchoatives, while the most common prefix is found with 41% in Italian, 55% in Spanish, and 60% in French. Such

figures indicate a more nearly regular word-formation rule for prefixed inchoatives in the modern languages.

What are the reasons for the historical narrowing of the choice of prefixes? The causes are phonological, lexical, semantic, and morphological. Due to consonantal assimilation in the prefix and because of loss of the final consonants in the prepositions, the Romance languages no longer have separate AD- and AB- prefixes but display a greater number of verbs compounded with a-. Furthermore, reflexes of AD like Spanish and Italian a and French à are very common prepositions meaning 'to', and they also serve various syntactic functions. So frequent are unstressed a and à that they coalesce with the definite article in their respective languages (Sp. It. al, Fr. au). In addition, Italian in, the preposition corresponding to the most common prefix in that tongue, also combines with the definite article (cf. nel). The greater ease of phonological combination shown by these prepositions helps to explain the larger number of compound verbs with reflexes of AD- and IN- in Romance.

A comparison of prefixes with homonymous or nearly homonymous prepositions shows the lexical causes for the rise of certain prefixes and the downfall of others. For example, the Latin prefix CON-, corresponding to the preposition CUM 'with', is frequent in Latin and continues to form words in Italian and Spanish, which also preserve the preposition con 'with'. In contrast, the same prefix has not persisted in French, where the preposition for 'with' is avec. Similarly, reflexes of the prefix IN- are proportionately more numerous in Italian and Spanish, which respectively use in and en for 'in', than in French, where en competes with dans as in the phrases en ville 'in town' and dans la campagne 'in the country'. Furthermore, Latin prepositions that have disappeared have taken the corresponding prefix out of the language with them, except in learned borrowings from Latin. Thus, reflexes of the Latin prepositions CIRCUM 'around', OB 'toward, in front of, on account of', and TRANS 'across' have not persisted in most languages, and neither have the corresponding prefixes. A few prefixes, which display strong semantic content, lack corresponding prepositions. Thus, verbs with reflexes of RE- are iterative, and the reflexes of separative DE- and DIS- and, in Italian, EX- are generally negative. Although the Italian prefix s- has changed from Latin EX- in form, its frequent negative and privative meaning keep it productive; I should add that it can sometimes indicate separation or occasionally lack all meaning (Rohlf's 1954: 238-9).

Semantics also contributes to the great productivity of reflexes of IN- and AD-. The corresponding prepositions are the most suitable for expressing entry into a state, since IN means 'in, into' and AD means 'to, toward'. The prefixes themselves may indicate entry into a state, for there are first conjugation doublets of inchoative forms with the same prefix and identical meaning:

It. arrotond-ire, arrotond-are 'to make round'
incoragg-ire, incoraggi-are 'to encourage'
 Sp. abland-ecer, abland-ar 'to soften'
enroj-ecer, enroj-ar (obs.) 'to redden'

Furthermore, IN- and AD- are prefixes in Latin verbs used as auxiliaries expressing the inchoative meaning; thus, IN-CIPERE, IN-COHARE, and IN-STITUERE all mean 'to begin', and AD-GREDI signifies 'to start a journey'. Finally, the Romance particle linking the inchoative auxiliary and the infinitive is the reflex of AD, as in French commencer à and Spanish empezar a, which both mean 'to begin to'. These semantic factors, then, are partly responsible for the promotion of Latin AD- and the retention of IN- as the most important prefixes associated with the inchoative suffix.

As the dictionary will show, Portuguese exhibits some derivational rules that jointly stimulate the productivity of certain prefixes and of the inchoative affix. For example, many inchoatives are created by the addition of negative des- to other inchoatives so as to express an affirmative idea by denying its opposite. A Portuguese dictionary, Taylor (1970), contains 34 inchoatives beginning with des-. While some are formations common to related languages, others are quite original. Thus, Ptg. des-guarn-ecer 'to remove garrisons, disarm' resembles Sp. des-guarn-ecer 'to dismantle, disarm' and Fr. dé-garn-ir 'to dismantle, strip'; similarly, des-obed-ecer 'to disobey' is like Sp. des-obed-ecer and Fr. dés-obé-ir, which both also mean 'to disobey'. However, the following examples are unique (Taylor 1970):

desengrandecer 'to belittle' < engrandecer 'to enlarge'
desempobrecer 'to enrich' < empobrecer 'to impoverish'
desenriquecer 'to impoverish' < enriquecer 'to enrich'

In addition to the simple negative prefix, there exists a subgroup of inchoatives with the structure des- + (-en-)...-ecer, where the affix en- is found in 20, or 59%, of the 34 negative compounds. Although en- is the major prefix in compounds, such a percentage is still

higher than expected because only 23% of a list of dated Portuguese inchoatives collected from Messner (1976) begin with en-.

Among inchoative verbs, the prefix en- (< Latin IN-) shows an interesting distribution. A reverse dictionary of Portuguese (de Castelões 1977) indicates that the proportion of -ecer verbs with the prefix en- is 65 out of 174, or 37%, while that of -escer inchoatives is only 4 out of 31, or 13%. As expected, the infinitives with the -ecer spelling follow the Romance pattern of en-compounds more closely than do the -escer verbs, which are typically learned and follow the Latin model. Such an observation receives support from three -escer verbs with the prefix in-, which contrasts with the en- universally preferred by -ecer verbs; of course, both in- and -escer more closely approximate Latin. The -escer verbs are nearer to Latin in other respects, too, since they regularly retain the intervocalic consonants deleted in vernacular verbs like empecer 'to damage' (cf. IMPEDIRE 'to hinder'), adoecer 'to sicken' (cf. IN-DOLESCERE 'to feel pain'), and esvaeecer 'to make disappear' (cf. VANESCERE 'to disappear'). Contrasting semantically as well as formally, learned verbs often express technical meanings, as illustrated by efervescer 'to effervesce, bubble up' and by intumescer and inturgescer 'to swell up'.

An additional semantic factor increases the number of prefixed inchoatives in Portuguese. Color verbs are very likely to begin with en-, as we can see by the following examples:

embranquecer 'to whiten'
 empalidecer 'to grow pale'
 encanecer 'to turn grey' (of hair)
 enegrecer 'to blacken'
 enrubescer 'to redden'
 envermelhecer 'to redden'
 enverdecer 'to make green, grow green'

So strong is the tendency toward en- that amarelecer 'to turn yellow' has developed the variant emarelecer, where root-segments am- were reinterpreted as an assimilated form of the prefix en-. The preference for en-...-ecer in color verbs must have stimulated the production of more en- verbs by supplying a combined morphological and semantic pattern.

Such minor rules of formation as (A) negative des- + (en-)...-ecer, (B) parasynthesis with en-...-ecer, and (C) en- with color verbs played an important role in extending the productivity of the prefix along two axes, since (1) new en- verbs were formed, and (2) the

frequency of the affix rose. Thus, besides increasing the number of prefixed verbs in the language, such rules produced models for the coining of yet more compounds.

In summary, this paper has noted several tendencies in the development of verbal prefixes in Latin and Romance. Derived from an original syntactic construction in Proto-Indo-European, the word-formation rule for prefixal verbs developed independently in Latin. The fate of prefixes in Romance depended on their meaning, the survival of prepositional doublets, and participation in parasynthetic formations, exemplified by prefixes that cooccur with inchoative affixes. Moreover, the general direction of historical development has been to reduce the variety of prefixes even as a large number of new compound verbs were being coined. Finally, as we have seen illustrated by Portuguese inchoatives, meaning may play an important role by stimulating the productivity of a prefix in a particular semantic area of the lexicon. Such, then, are the multiple factors that influence the productivity of prefixes.

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