On the development of Latin -SK- to French and Italian – Lexicalization, reanalysis and spreading

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The author aims at giving a coherent interpretation of the well-studied emergence of a new inflectional class in French and Italian. A distinction is made between two complementary kinds of explanation: strong explanations, which involve assumptions about mental representations and their variation, and weak explanations, which contextualize given changes with respect to other changes and preceding stages of the language. The strong explanations proposed here rest upon assumptions about the mental lexicon: lexical storage, inertia and reanalysis of lexical representations, competition of direct lexical access with morphological analysis, the dynamics of and the resistance against paradigmatic and lexical spreading. Weak explanations comprise, among others, the decline of the Latin system of inflectional classes and the emergence of Romance patterns of stem variation.

1. Introduction[*]

In the verb paradigms of several Romance languages, there is a morphomic constituent [1] -SK-, which goes back to a derivational suffix of Latin [2] and has a peculiarly irregular distribution. For example, in Italian, -SK- is restricted to the fourth conjugation and appears only in the Present (e.g. *fini**sc**o* 'I finish' vs. *finivo* 'I finished'), and it is missing in the first and second Person of the Plural of the Present tense (e.g. *fini**sc**i* 'you-Sg. finish' vs. *finite* 'you-Pl. finish'). Several scholars have proposed phonological explanations of the change that led to this distribution. Lausberg (1965:269) observes that it helped to reduce the mobile accent, with the consequence that all forms of the paradigm now have the same accentuation, which falls on the right-hand side of the root. Di Fabio (1990) proposed that inflectional -SK- was originally introduced into virtually the entire paradigm of the Present tense, but in the first and second Person of the Plural, the presence of -SK- caused a stress conflict, which was resolved by its deletion [3]. Both explanations implicitly suggest that there is phonological pressure to change from mobile to fixed accent. This pressure may well be supported by the principle of prosodic stem stability, which may be presumed to be a universal, but violable constraint.

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This line of explanation is belied by the fact that all verbs of the other Italian conjugations continue to have mobile accent. Moreover, were it valid, one would expect to see the same distribution in French. Old French, unlike Modern French, still had stress assignment at the word-level, and the same stress clash would have occurred as in Di Fabio's account of Italian. But -SK-, which has been reduced to /s/, is still present in the forms concerned: [nufiniso)] *nous finissons* 'we finish', [vufinise] *vous finissez* 'you-Pl. finish'. And in a more general perspective, it may be argued that stress conflicts are normally resolved within phonology, preferably by stress rearrangement, rather than by deletion of morphemic material [4]. For further discussion see Maiden (2003:14, 2004:32f).

Without denying that morphological change is indeed often triggered by sound change, this study argues, in line with a position taken by Maiden (2003, 2004), that there are general principles of morphological structure, independent of phonology, and that these principles are needed to understand how morphological structures are lost and recreated as languages develop.

Maiden (2004) is a comprehensive attempt at understanding the existence and the distribution of Romance augments, including -SK-. His main claims are the following:

i. Although they lost their original meanings, Latin augments survived in Romance, because they still are "signs". Unlike typical Saussurian signs, however, such a "sign" has no reference to content; it is "a kind of intramorphological 'signans' whose 'signatum' is morphological class membership" (Maiden 2004:29).
ii. The distribution of Romance augments basically is the one exemplified by -SK- in Standard Italian. It obeys the "N-pattern", which is "a certain recurrent but idiosyncratic pattern of allomorphy in the Romance verb system", serving "as an attractor for the redistribution of a wide array of paradigmatic alternants, of which the augment is only one" (Maiden 2004:6). Distributions that exceed that pattern are due to subsequent spreading.

The present study shares the second, but not the first of these claims. If Maiden characterizes the relationship between the stem extension -sk- and the i-conjugation in terms of "signans" and "signatum", this may be accepted as a metaphor. But in more prosaic terms this relationship is not a semiotic one. An inflectional class is not an entity. It is just a configuration of properties, which are lexically associated with a number of roots and, in the case of the languages discussed here, may be stated as a set of implications. Regarding the Italian class exemplified by *finire*, one implication arises between -SK- and

theme vowel -i- and another between the theme vowel -i- and a set of endings. More explicitly, if a verb shows stem extension -SK-, it has -i- as its theme vowel, and if a verb has theme vowel -i-, it has -e in the 3rd Singular Present indicative and -a in the Singular and in the 3rd Person Plural of the Present Subjunctive. Thus -SK-, among the properties of i-verbs, is on a par with the theme vowel and the class-specific endings, and its survival as a morphological constituent cannot be explained with reference to some privileged status [5].

Furthermore, the present study differs from Maiden (2004) insofar as it considers a much narrower range of data. Whereas Maiden's study comprises two augments, represented as -isk/esk- and *-edj-, and spans over the whole Romance area, I will only treat one of them in only two Romance languages. There would actually be no point in trying to compete in breadth with the survey contained in Maiden (2004); moreover it may be hoped that narrowing down the aperture of the lens will improve the depth of focus.

In particular, it will be argued that the transition of -SK- from derivational to inflectional status is prepared by semantic bleaching, and that peculiarities in the modern paradigmatic distributions of -SK- have resulted from specifically morphological and lexical principles. The goal here will be to identify how these specific functional and structural principles of morphology governed the evolution of -SK-. The principles invoked include:

- Phenomena of lexicalization and reanalysis
- Competition of direct lexical access with morphological analysis
- Paradigmatic and lexical spreading.

These are not purely structural principles of language, as they also make assumptions about how languages are processed and learnt.

Lexicalization is conceived of here as a process that takes place after the elementary grammar has been acquired. It is defined as a mental process, whose input consists of relatively short complex expressions, words, phrases, or short sentences. The process is triggered by usage and its economy. If a short complex expression is infrequent, access via grammar is economic, though it is computationally costly. If, on the contrary, it is frequent, it is stored in the lexicon, which allows for direct lexical access, which is computationally more economic. Notice that lexicalization as such does not change the mental grammar: hence grammatical access is still available, in such a way that lexicalization leads to virtual double access. Double access may subsequently be lost. This may happen as a consequence of lexical or of grammatical change: a lexicalized expression may change independently from the grammar, or the grammar may change while

the lexical item stays. So we have to make a distinction between lexicalization proper and its effects.

Notice that lexicalization necessarily has an extension in time and is gradual in its progression. Lexicalization proper takes place during the life span of individuals. It may be reversed if it is not supported any longer by frequent use. The effects of lexicalization, however, supposedly arise in the course of longer periods, spanning over generations. They are not reversible, but of course an opaque expression may be dropped from the lexicon, just as any other lexical item.

Reanalysis happens when a given complex expression that is assigned a representation r_1 by some speakers is assigned a different representation r_2 by other speakers. If reanalysis happens pervasively, it may cause a change of the underlying mental grammar. It is commonplace that reanalysis takes place during first language acquisition; generative linguists think that it exclusively occurs during that process, but there may well be other situations, such as bilingualism, or exposure to dialectal variation, which favor reanalysis. There is no need for the present article to discuss that issue.

Paradigmatic spreading is the term I use for those morphological processes where some property of a given word, which is specific to just one cell or to a subgroup of cells at a given stage s_1, and there is a following stage s_2, where that property also appears in other cells of the paradigm of the same word. Lexical spreading on the other hand is the term I use to refer to those processes where some structural property that is specific to some word or a set of words at a given stage s_1, also appears as a property of other words at a subsequent stage s_2.

Speakers may draw on both kinds of spreading in order to reduce the amount of inflectional complexity, thus enhancing learnability. Paradigmatic spreading may reduce irregularity, but it may also bring about syncretism by blurring feature realization. Lexical spreading may weaken or entirely do away with inflectional classes, but it also may propagate sharper formal distinctions between cells or groups of cells.

Both kinds of spreading have a temporal extension by definition, but the span of time they need presumably varies from extremely short to quite long.

Spreading of both kinds may be blocked. One kind of blockage is obvious: if a word-form is strongly lexicalized, it is protected against spreading: the virtual advantages of spreading are counter-balanced by the computational efficiency of direct lexical access. Our Romance data motivate that there is a second, less obvious cause of blockage, namely paradigmatic distance.

2. The historical data

Briefly, the evolution of -SK- comprises three cross-linguistic variations. Firstly, -SK- develops from the status of a derivational morpheme to that of an inflectional constituent in most, but not in all Romance languages [6].

A second variation is that there are, among those languages where the shift from derivation to inflection did take place, differences in how the suffix is distributed within the paradigm. As an example, compare Italian, where the Present tense stems of i-verbs are more suppletive than in French:

Table 1. The distribution of -SK- in the Present tense in Italian and French.

	Italian		*French*	
	Indicative	*Subjunctive*	*Indicative*	*Subjunctive*
1 sg	finisco	finisca	finis	finisse
2 sg	finisci	finisca	finis	finisses
3 sg	finisce	finisca	finit < OFr. finis**t**	finis**s**e
1 pl	finiamo	finiamo	finissons	finissions
2 pl	finite	finiate	finissez	finissiez
3 pl	finiscono	finiscano	finissent	finissent

Table 2. The distribution of -SK- in some other forms.

	Italian	*French*
Imperfect 1 sg	finivo	finissais
Perfect 1 sg	finíi	finis
Infinitive	finire	finir
Gerund	finendo	finissant
Past participle m sg	finito	fini
Agent noun	finitore	finisseur
Event noun	finizione	finissage

The third source of variation is that, in Italian and French, where -SK- became characteristic of the -i-conjugation, some i-verbs (*dormire*, *sentire* etc.) resisted the introduction of -SK- into the paradigm, causing a split within that class.

These variations will be discussed with respect to the question of how their development can be reconstructed and explained. There is, of course, an abundant literature on this topic; the present contribution's motivation lies at the level of the relationship between reconstruction and explanation in the domain of morphological change.

3. Remarks on historical explanations

Historical linguistics generally aims at explaining the phenomena of change. Explanations can be in terms of causes external to a language or internal to it, i.e. they concern sociolinguistics or the mental grammar of (idealized) speakers. Here, only internal explanations will be proposed, although it is not improbable that recourse to external factors would be necessary to present a complete picture.

3.1. Two kinds of internal explanations

Internal explanations, in turn, can have two degrees of explanatory power, which I shall characterize as either weak or strong. Weak explanations avoid making hard-to-prove assumptions about universal constraints, but they do assume that the structure of a language is a more or less coherent system, and that any given change is constrained by the previous stage of the language. A particular change can be explained by the need to maintain coherence with other changes occurring in the language at the same time. Being language specific, weak explanations depend heavily on detailed and intimate philological and comparative knowledge, and given the privileged conditions that Romance linguistics enjoys in this respect, it is not surprising that this form of explanation could flourish and be dominant in Romance Philology. The reason why explanations in this style, in spite of their unquestionably informative value, must be characterized as 'weak' is that they take the form of a virtually never-ending chain of explanatory regressions. They are constrained only by the historical facts they recount: they do not attempt to introduce non-contingent, predictive hypotheses that would be falsified by developments other than the ones they describe. Thus the endeavor to reconstruct and explain the development from Vulgar Latin to the modern Romance languages is constitutive for historical Romance linguistics. But there are diachronic processes in Romance that can better be understood as continuations of processes ongoing already within Latin, and as soon as one starts to look at the history of Latin in detail, one becomes curious about what happened before the period of the language now conceptualized as Latin.

Strong explanations, on the other hand, attempt to derive changes from general principles of language structure, storage and use. Their strength lies in the fact that they do not explain contingent events by recourse to other contingent events, logically on the same level, but rather by recourse to superordinate principles. Unlike weak

explanations, strong explanations are thus not embedded in endless chains of regression. Moreover, unlike weak explanations, they are not restricted to particular languages in particular situations; in fact, they explain an indefinite number of particular facts and events.

Strong explanations of the structural kind are founded on the assumption that mental grammars are subject to universal constraints, which define possible structures of natural languages and possible changes of these structures. Note that these constraints may be mutually contradictory, since they derive from the contradictory requirements of production, perception and storage [7]. Their contradictory nature also allows that change may occur at any time. But the general principles of human language do not predict that a particular change will occur at a particular time, nor can they explain why a particular change took place at a particular time.

There is one kind of strong explanations that focuses on the quantitative aspects of language use. Its proponents emphasize that language is acquired in communication and claim that change is a consequence of frequency, viewed as repetition. Mental representations are conceived of as conventions; high frequency creates and strengthens mental representations and makes them resistant to analogical leveling, but it also causes phonetic erosion and reduction of meaning (Bybee 2001:8f, 12).

It may be doubted, however, whether the investigation of frequency really gives access to the causes of change. It may be argued that frequency, rather than being a primary factor, is always the reflex of something else. If an event is frequent, the question remains why it is frequent. Still, it cannot be denied that frequency, even if it only is a dependent variable, has consequences of its own. Moreover, it has the immense advantage of being measurable.

The predominantly quantitative approach may be completed by exploring change as the emergence and stabilization of conventions in communication: speakers efficiently adapt their language to the purposes they pursuit in specific situations. Garrod & Anderson (1987) and Garrod & Doherty (1994) [8] show how conventions emerge and spread during repeated execution of a task carried out in dialogue. The task was a game that involves two players, who had to move figures in a maze. It implied that the test persons referred to specific fields of the maze, and it could be observed that they gradually selected and agreed on one of several spatial models; then the game was extended to more players, and it could be observed how the use of this model became a convention also in the dialogues of that larger group.

The concept of dialogue-driven change reaches a deeper level than mere frequency-based explanations. However, it is open to which extent it is able to cover the full range of language change. At least in the specific form which it takes in the experimental studies just mentioned, it concerns only a very high level of language organization, namely the level of conceptual modeling, which is far away from the lower levels of morphology and phonology.

In the present study, neither of the two types of strong explanations that we have been discussing here can deploy its power. Frequency is obviously involved in the notion of lexicalization that we draw on, but a quantitative study of the change investigated here cannot comprise the crucial period of reversal, when -SK- ceased to be a suffix of word formation and became a class-sensitive stem extension: we have no written records of Proto-Romance [9].

Consequently, we will focus on a few general assumptions about the lexicon as a component of mental grammar, and try to show that they have explanatory value in the reconstruction of a specific morphological change.

3.2. The role of the lexicon

In the generative tradition, mental grammar has been viewed mainly as a set of rules or constraints fed by the lexicon. In this view, the lexicon is a mere collection of unanalyzable units, which, so to speak, furnishes unformed raw materials to the grammar. It has no active part in the system; at most, being a deposit of irregularities, it may block the regular functioning of the grammar.

In line with much recent work, the present paper, on the contrary, takes the view that the lexicon is an essential component of the language faculty, central to language processing and to language change, and that there is morphology, i.e. a "lexical grammar" that can analyze actual and define possible complex words [10]. Lexicalization, as defined in the *Introduction*, operates on its output.

It should be added that lexicalization, depending on use, takes place in time and is therefore what might be called a mini-diachronic process. There are degrees of lexicalization. Weakly lexicalized words may be replaced with competing words; strongly lexicalized words may stay in the language even if the system on which they were originally based undergoes a change which makes them, so to speak, ungrammatical. Thus, Old French *tres* was an adverb, which could

modify a verb, and meant 'completely', or 'excessively'. In Modern French, *très* means 'very' and can only modify adjectives and adverbs. But it still appears in frozen verb constructions such as *avoir très peur* 'to be very frightened', *faire très peur* 'to frighten violently', and *avoir très faim* 'to be very hungry', and it is preserved as an unproductive prefix in verbs like the following (Rey 1992: s.v. *très*):

(1) *trébucher* 'to stumble', cf. OFr. *buschier* 'to hit', *trépasser* 'to pass away', *tressaillir* 'to thrill', 'to shudder', *tressauter* 'to start, to jump'.

Such effects of lexicalization also are well known in syntax and phonology. Certain French verb phrases containing a direct object are a good example of such a lexicalization effect: Modern French expressions like those in (2) show the word order and the syntax of bare nouns of Medieval French:

(2) *sans coup férir* 'without meeting any opposition', *sans mot dire* 'without saying a word'

The same happens in phonology: Old French nasalization of oral vowels before nasal consonants was dropped during the transition to Modern French (3), but there are two clitic forms where, at least in educated speech, the vowel still is nasal before a nasal consonant (4):

(3) OFr. [bɔ̃nefãme] *bone fame* 'good woman', Modern Fr. [bɔnfam] *bonne femme* 'good woman'
(4) Modern Fr. [mɔ̃nami] *mon ami* 'my friend', [ãnut] *en août* 'in August'

In both cases, lexicalized forms have resisted the effects of otherwise fully realized grammatical changes. In the following, certain aspects of morphological change will be analyzed as lexicalization effects.

4. Latin SK-suffixation

Latin -SK- is a suffix of word formation. Its semantic and formal properties seem to vary in a confusing way if one looks at Latin as a static object. It is the merit of Haverling (2000) to have analyzed the formal and semantic variation of -SK-suffixation in the dimension of time and on the basis of a coherent conceptual framework. The following characterization of Latin sk-suffixation follows Haverling's findings [11], with, needless to say, certain simplifications and omis-

sions. Thus we do not take into account the competition with and interaction between -SK- and other affixes (H31f). We will not look as closely as Haverling (H44ff) at the interaction between lexical aspect (*Aktionsart*) on one side and tense, temporal adverbials and aspect verbs such as 'begin' on the other. Regarding the dimension of time, we will reduce Haverling's fine-grained division of the history of Latin into nine periods (H38ff) to the usual distinction between Early, Classical and Late Latin. Moreover, Haverling (H138) gives a mixed four-way typology of sk-verbs, which rests upon syntactic and morphological criteria (transitivity, lexical categories), as well as on semantic types [12]. I will focus on the latter, and try to distinguish readings that can be related to an ontology of situations.

4.1. The semantics of Latin SK-suffixation

Let us first consider the semantic aspects of Latin -SK-. I will distinguish three readings, a "dynamic", an "ingressive" and a "void" reading, and will discuss a possible analysis in terms of aspect.

4.1.1. The dynamic reading

The main function of this suffix is "to distinguish dynamic expressions from states" (H32). In this function, sk-verbs are "non-terminative" (H61, 137 and passim) and refer to activities, as opposed to achievements (H137). In Early and Classical Latin, this is the only function of sk-suffixation; it characterizes an event as "dynamic" or "more dynamic" [13]. By itself, -SK- does not introduce any specific aspectual (ingressive or telic) component of meaning. Specific aspectual meaning components may be introduced, however, by conceptual elaboration of the root, or by prefixation (H154f).

I will refer to this semantics of sk-verbs as the 'dynamic reading', and will locate this distinction within the ontological hierarchy I have alluded to above. Its highest node, 'situation', immediately dominates two instantiations, 'event' and 'state'. In the dynamic reading, the referents of sk-verbs are events. Notice that, in the ontology of situations, the event node dominates particular kinds of events, e.g. ingressive events, telic events and similar. We reserve the term 'dynamic reading' to those cases where none of these kinds is specified by the suffixed verb [14].

The readings we are trying to establish here may come with certain shades of meaning. Thus an event may be characterized as taking place gradually, and this also happens with respect to the

dynamic reading [15]. Since the distinction between punctual and gradual events does not seem to have a bearing on the change we are investigating, we do not introduce it in our ontology and, accordingly, do not postulate additional readings to account for it.

4.1.2. The ingressive reading

There is a second reading, which appears when sk-verbs refer to the coming about of a state or a property. An example is *rubesco* 'to gradually become red, to be turning red' (H178f). Haverling analyzes them as having a "terminative function", which is distinct from the "dynamic function" (H138). She does not explicitly analyze her data with respect to "terminative function", but the translations she gives of her examples suggest that many sk-verbs refer to the coming about of a state or a property; see her translation of *rubesco*, a few lines above. I will refer to this semantics of the suffix as the "ingressive reading" [16].

I also include under this reading certain shades of meaning that Haverling considers as "non-terminative". One of them occurs when the verb refers to an event that leads towards a change of state, but does not reach that change itself, as in *vesperascit* 'it is getting towards evening' (H293). Another occurs when the property that results from the change is referred to by comparison, as in *puellasco* 'to become like a girl' (H247). In both these variants, the ingressive reading is combined with a device of rhetoric, metonymy in the first, and comparison in the second case. A third variant occurs when the resultant state, rather than a new property, is a higher degree of the old property, as in *calesco* 'to become warmer, to be warming up' (H160), and typically in deadjectival verbs, such as *veteresco* 'to grow older' (H182). This variant is due to the comparative semantics of relative adjectives. In all of these three cases, the ingressive meaning is affected by some additional process.

Regarding the temporal dimension, the ingressive reading is lacking "in the earlier periods" (H450) [17]. More precisely, it may occur, but only when the SK-verb has a prefix, in such a way that the ingressive reading seems to be due to the prefix [18].

In order to be able to relate the ingressive reading to our ontological fragment, we have to introduce a new category, 'ingressive event', dominated by the node 'event'. In the hierarchy 'situation' > 'event' > 'ingressive event' sk-verbs in the dynamic reading refer exclusively to the node 'event', whereas in the ingressive reading they refer to the node 'ingressive event'.

4.1.3. The void reading

At a third, still later stage sk-suffixation no longer effects any "palpable" semantic change [19]. I will refer to this semantics of the suffix as the "void reading".

Here is a list of verbs with void -SK-, which I extracted from Haverling (2000); the translations are hers:

(5) *Bullesco* 'bubble' – *bullio* 'bubble, effervesce, boil' (H426); *cadesco* 'fall' – *cado* 'id.' (H423); *fluesco* 'flow, melt, dissolve' – *fluo* 'flow, run, pour, stream' (H424); *fremisco* 'roar, grumble' – *fremo* 'roar, hum, buzz, grumble, mutter' (H424); *frendesco* 'grind one's teeth' – *frendo*, *frendeo* 'id.' (H424); *foetesco* 'stink' – *foeteo* 'id.' (H412); *fumesco* 'emit smoke' – *fumo* 'id.' (H407); *labisco(r)* 'fall, slip' – *labor* 'glide, slip, collapse, fall' (H424): *lippesco* 'be red-eyed' – *lippio* 'suffer from inflammation or watering of the eyes, be red-eyed' (H426); *scatesco* 'gush forth, swarm, bubble over' – *scateo* 'id' (H418); *tuberasco* 'swell up, be protuberant' – *extubero* 'form into hills or ridges' (H409).

As can be seen from the translations, some of these verbs, *fluesco*, *pulchresco*, and *tuberasco*, vary between the void and other readings. Some of the verbs with void -SK- are deadjectival, in the sense that no sk-less counterpart is attested: *obatresco* 'be dark' – *ater* 'dark' (H436); *furvesco* 'be dark' – *furvus* 'dusky, sombre' (H437); *pulchresco* 'be (or become) beautiful' – *pulcher* 'beautiful' (H439).

The emergence of the void reading can be interpreted as an important step towards the emergence, in Romance, of inflectional -SK-, which, in fact, has no meaning.

4.1.4. An aspectual reading?

Regarding the semantics of Latin -SK-, another question remains to be clarified: did the suffix have an aspectual reading? Zamboni (2000: 136) considers the possibility that there may have been a stage in which -SK- was an inflectional mark of the perfective aspect [20].

Moreover, Haverling frequently uses the English progressive in her translations, and she also describes the meaning of certain examples in terms that raise the question whether -SK-, in addition to the readings discussed so far, may also express the progressive [21]; cf. the following statement (my emphasis):

> Often […] the semantic opposition is between different degrees of dynamicity. In such cases the unsuffixed verb describes the action generally, whereas the unprefixed *sco*-verb emphasizes the ongoing nature of that action". *Labo* means 'stand unsteadily, be shaky, totter, waver' […] and *labasco* 'be shaking, wavering'… (H155).

Before discussing the question of a possible aspectual value of -SK- in Latin, a terminological clarification is in order. The "ongoing" of an event, or its unboundedness, may be encoded in a verb stem (including a derived stem), or in an inflectional ending. If it is encoded in a stem, it is a feature of the verb's meaning and selects unbounded events as its referents, independently of the context. If, on the contrary, unboundedness is encoded in inflection, it localizes the event with respect to the utterance time and to other events; its semantics is fundamentally context-sensitive. If unboundedness is encoded as lexical meaning, it refers to a state or an activity, i.e. a lexical aspect or *Aktionsart*. If it is encoded in inflection, it is the progressive. As to Zamboni, his terminology is clear: he speaks of perfectivity as of an aspect, i.e. a value expressed by inflection.

This terminological precision allows us to perceive the importance of the problem more sharply: if -SK- actually marked an aspectual value, perfective or progressive, at some stage of the development, then the change of morphological status and the semantic bleaching would be two distinct processes, and we could formulate a neat, well motivated reconstruction for the change from word formation to inflection. The concept of unboundedness would be a plausible bridge from the dynamic reading of the word formation suffix to the inflectional progressive marker. Or, if, as in Zamboni's reconstruction, -SK- was a marker of the perfective aspect, one may try to show that the ingressive reading is conceptually related with perfectivity, (though that may turn out to be difficult).

The assumption that Latin /sk/ was a progressive marker can be tested in the following way: as a progressive marker, it should occur not only in activity verbs, but also in achievement verbs. And of course the lexical meaning of the verb should be the same, regardless of whether -SK- is present or not. In Haverling's *Index verborum* (H 461ff), where the verbs of her data are listed in their attested inflected forms, I did not find but very few such cases, and they are no clear evidence. The verbs in question are the following: *capesco*, *capisco* (H463), cf. *capio* 'to seize'; *sanesco* (H478), cf. *sano* 'to heal'; *siccesco* (H479), cf. *sicco* 'to make dry'. *Capesco*/*capisco* is attested in glossaries (H172), where it actually is glossed with Lat. *capere* 'to seize' or Gr. λαμβάνω, which also means 'to seize'. But the very short contexts do not hint at a use of -SK- as a progressive marker; so *capesco*, *capisco* seems to be an example of the void reading [22]. Regarding *resanesco* and *siccesco*, both are, descriptively speaking, deadjectival verbs; cf. *sanus* 'healthy' and *siccus* 'dry'. But there is a difference in lexical meaning between *sano* 'to heal' and *sanesco* 'get better, recov-

er' (H434). Likewise, *sicco* means 'to make dry', and *siccesco* means 'to become dry, to be drying' (H434). So these two verbs do not meet the criterion that an inflectional progressive does not change the lexical meaning.

Moreover, if -SK- had turned into a progressive marker at some point of its development, we would expect it to appear with certain frequently used achievement verbs, such as *exeo* 'to exit', *moror* 'to die', *pono* 'to place', and similar. But no such forms are among Haverling's data. We have to conclude that the data at hand give no evidence for progressive -SK- in Latin.

The situation is similar for -SK- as a possible perfectivity marker. Zamboni himself admits that there is no clear evidence for his idea [23]. The Old Italian examples he refers to do show that some verbs were used with or without -SK-. But this can as well be interpreted as a meaningless variation, due to the ongoing spreading process.

To conclude: assuming an intermediate stage of -SK- as an aspect marker would make our reconstruction more attractive. However, it is not really needed for the reconstruction I will propose. So given the lack of clear evidence, I will not postulate that -SK- had the status of an aspect marker.

4.2. The formal side of Latin sk-suffixation

In order to characterize a derivational process, it is necessary to specify, among other things, the lexical category and the inflectional class of the input and the output. I will first look at the input, i.e. the bases of Latin sk-verbs (4.2.1) and then the changes implied in the resulting derivation (4.2.2).

4.2.1. The bases of Latin sk-verbs

Latin sk-suffixation is not restricted to a unique base category. In fact, sk-verbs are derived from all three major lexical categories, verbs, adjectives and nouns. But there is a clear ranking: deverbal sk-verbs form the largest group by far, followed by deadjectival ones, while denominal sk-verbs rank last. From Haverling's tables (H139) it can be gathered that, out of the 710 sk-verbs which make up her corpus, 446 are derived from verbs, 172 from adjectives, and 92 from nouns.

The verbs to which -SK- is attached belong to all four conjugations (H155), but verbs of the second conjugation (thematic vowel [24] -ē-) are clearly preferred. In the tables mentioned above (H139), Haverling gives numbers for a large sub-group [25] of 274 deverbal sk-verbs: the

bases of 197 sk-verbs belong to the second conjugation, whereas 27, 25 and 25 bases belong to the first, third and fourth conjugation respectively.

4.2.2. Additional formal changes implied in the sk-derivation

The derivation of sk-verbs consists not only in the introduction of the suffix. It also determines the inflectional class of the derived verbs: all sk-verbs belong to the third conjugation.

If the base is a verb stem, it already belongs to an inflectional class and has the corresponding theme vowel. In the derivation, the inflectional class of the base is simply ignored. The theme vowel stays, but remains encapsulated in its original stem: it does not become the theme vowel of the derived verb. This is not surprising, the same happens in verb-to-noun derivation; cf. theme vowels -a- and -i- in (6):

(6) imitare 'to imitate' – imitatio 'imitation'
finire 'to limit' – finitio 'a limiting'

In nouns like *imitatio* and *finitio* the theme vowel exclusively belongs to the verb stem from which the noun is derived; it is not the theme vowel of the noun and is not related with the noun's inflectional class.

Coming back to deverbal sk-verbs, they differ from deverbal nouns in so far as they contain two theme vowels: one belongs to the stem that is the base of the derivation, the other is the theme vowel of the derived verb. The two theme vowels may be different (7a) or identical (7b):

(7) a. *senti**i**sc**e**re*, infinitive of *senti**i**sco* 'to perceive', derived from *senti**i**o* 'to feel'
b. *cal**e**sc**e**re*, infinitive of *cal**e**sco* 'to grow warm', derived from *cal**e**o* 'to be warm'.

Interestingly, we find sk-verbs where the theme vowel of the derivational base is not conserved; -ā- can be "replaced" with -ē-, and this tendency grows stronger with time:

> Most verbs in this group [i.e. sk-verbs derived from verbs of the first conjugation] have the suffix *–asco*, but quite early there was some overlapping with *-esco* and in the later periods we find parallel forms such as *gelesco* (H155) [26].

One might think of interpreting these data as a variation of inflectional class. However, the variation between -a- and -e- seems to be found only when -SK- is present. We have *gelare* – *gel**e**sco* 'to freeze', *rutil**a**re* 'to be, make reddish' – *rutil**e**sco* 'to grow reddish', *ton**a**ns* – *ton**e**scit* 'to thunder' (156), but the corresponding e-verbs (**gel**e**o*, **rutil**e**o*, **ton**e**o*) are not contained in Lewis & Short (1879), and we may safely conclude that they did not exist. It is more plausible to assume that the change from -a- to -e- was an aspect of sk-suffixation.

This assumption is supported by those cases where sk-verbs are derived from stems whose roots are adjectives or nouns, such as those in (8):

(8) a. *albesco* 'to become white', *duresco* 'to grow hard', *floresco* 'to begin to blossom', *mollesco* 'to become soft', *rubesco* 'to grow red', *umesco* 'to grow moist'.
b. *fortesco* 'to become brave', *pinguesco* 'to grow fat', *rufesco* 'to become reddish', *sanesco* 'to become sound', *siccesco* 'to grow dry', *spissesco* 'to become thick', *umesco* 'to grow moist', *viridesco* 'to grow green'.

All these deadjectival or denominal verbs show -e- as the theme vowel of their derivational base. In (8a) the base is the first stem of an attested verb of the second conjugation, such as *albeo*, *dureo*, *floreo* etc. The derived sk-verbs just keep the -e- of these stems. On the contrary, for the verbs given under (8b) there are no attested verb stems with -e-; we do not find verbs such as **forteo*, **pingueo*, **rufeo*[27]. To explain the appearance of an /e/ before the suffix, the following facts must be considered:

i. There is a phonological constraint that prevents -SK- to be affixed to the mere root. Some vowel was needed between the root and the suffix.
ii. All deverbal sk-verbs are derived from a stem with a theme vowel, and this theme vowel tends to become exclusively -e-.
iii. All deadjectival and denominal sk-verbs show the vowel /e/ before the suffix.

I assume that there was a general rule of deriving e-verbs from adjectives, which, in addition to attested and lexicalized verbs such as *albeo*, defines other verbs that are never used, but whose first stem is available for word formation. Thus verbs like **forteo* do not exist, but stems like *forte-* could be the input to sk-suffixation.

The presence of theme vowel -e- in all deadjectival sk-verbs may then have given rise to the variation between -a- and -e- even in those cases, exemplified by *gelasco* vs. *gelesco*, where the root is not obviously an adjective [28].

Another intriguing fact is that Latin sk-verbs do not have a fully elaborated paradigm: all forms that are built upon the Perfect stem coincide with those of the corresponding sk-less forms. Thus *rubui* is the First Person Singular Indicative Perfect of both *rubesco* 'to become red' and *rubĕo* 'to be red'.

This can be understood in various ways. One possibility (analysis A) is to say that the Perfect stems formed with the suffix -u- belong to the paradigms of both the sk-verbs and their bases [29]. More precisely, analysis A amounts to saying that the sk-verbs are suppletive, since they show the Perfect stems of their sk-less counterparts. The second (analysis B) claims that the sk-less -u-stems are not contained in the paradigm of the sk-verbs [30], that is, that the sk-verbs are defective (they have no Perfect stems). This analysis may possibly be supported by the assumption that the aspectual semantics of the Perfect tense makes the Perfect stems of sk-verbs superfluous – an issue that we must leave open [31].

Whichever the correct analysis may be, the lack of -SK- in Perfect stems may have helped to prepare the situation in French and Italian, where -SK- does not appear in all cells of the paradigm.

5. Representations and rules

'Strong' accounts of morphological change, in the sense of section 2, are most convincing when based on explicit formalizations of a given synchronic state of a language. The formal representations can then be seen as the material upon which principles of historical change operate, so as to produce new, altered forms of these same representations. To this end, I will now attempt to formalize some of the properties of Latin sk-verbs in terms of representations and rules. The focus will be on those properties that are the starting point of the evolution towards Romance. This methodological step will make the analysis more transparent, insofar as each stage of the development can be described explicitly as an alteration of the original set of representations and rules, but it will also raise some additional questions.

The notations to be used are borrowed from formal approaches to morphology and lexical semantics. For lexical representations and morphological rules, I will use a format adapted from Lexical

Functional Grammar; semantic representations are written in the standard notation of lexical semantics.

5.1. The representation of the suffix

Given the properties of Latin -SK- that have been discussed above, the question arises whether this suffix should be represented as one suffix or whether it would be best treated as a set of homonymous suffixes. On the semantic side, there is the polysemy, stretching from the dynamic and the ingressive readings to the void reading, which -SK- developed during its history. The polysemy of -SK- thus has a diachronic dimension, with variants existing at some points more as potential readings and at others as dominantly used readings [32].

On the side of constituent structure, there is the fact that -SK- is affixed to stems whose roots belong to different lexical categories, verbs, adjectives and nouns.

5.1.1. The functional level and constituent structure

There is a functional level of representation, where meaning is represented only in terms of features, regardless of the fine semantics of the item concerned. Like other features, the meaning-feature can be represented, at the functional level, by equations consisting of an attribute and its value. The attribute of ordinary word meanings is PREDICATE; its value is an expression that identifies, but does not exhaustively determine a particular meaning. The changes of meaning brought about by derivational morphology are represented by an attribute DERIVATIONAL_PREDICATE (abbreviated DPRED); the value is an expression which identifies the result of the semantic change that the affix brings about. Notice that the value of DPRED still belongs to the functional level of representation; it is mapped to the semantic level as an argument structure, consisting of a predicate constant plus its argument variables.

The problem of constituent structure has already been discussed at length in section 4.2.2. Our conclusion had been that two rules are at work. One, deriving verbs from verbs, is category preserving; the other, deriving verbs from adjectives or nouns, is category changing.

This is the assumption on which the following will be based. It lets us postulate a single lexical representation of Latin -SK-, which is exclusively adjoined to verb stems. The verb stems, in turn, may be derived from adjectives or nouns. So the descriptive expression "deadjectival or denominal sk-verb" actually means "an sk-verb derived from a verb that is derived from an adjective or a noun". Thus the verb *fortesco* is derived from the verb **forteo*, which in turn is derived

from the adjective *fortis*, and *vesperasco* is derived from a (hypothetical) verb **vespereo*, which in turn is derived from the noun *vesper*. Remember that this analysis does not imply that the sk-less intermediate verb is attested; the claim only is that it is defined by the morphological system [33].

The lexical features of -SK- can be represented as in (9):

(9) *The lexical representation of Latin -SK-*
sk, v_suffix
(↑ DPRED) = 'SK (ARG PRED)'
(↑ TENSE) = ¬ {PERFECT, PLUPERFECT, FUTURE_PERFECT}
(↑ CLASS) = III

Translated into ordinary English: -SK- is distributionally a verb suffix. It comes with three functional features. The first identifies the semantic change imposed on its input, i.e. the meaning of the derivational base [34]. The second feature states that the tense of the derived verb must not be the Perfect, the Pluperfect, or the Future Perfect, and the third feature assigns the third conjugation to the rule's output.

Notice that the lexical representation of the suffix given in (9) does not exclude a clash between the values of the class features. If the base verb and the derived verb belong to different inflectional classes, unification fails, that is, most, if not all sk-verbs would counterfactually be declared ungrammatical. Therefore the class feature of the derivational base must be prevented from being projected. This need is not specific to sk-suffixation, it holds for all processes of word formation where a verb stem is involved as an input. It can be accounted for in the suffixation rule by a blocking feature written as (10), where the slashes symbolize blocked projection:

(10) (↑ /CLASS) = (↓ /ARG CLASS)

As to the rule that adjoins -SK- to verb stems, given by (11) below, it is not specific to this suffix; it is a general rule of word formation that turns verbs into verbs.

(11) *The rule for Latin verb-to-verb suffixation*

v	→	v-stem1	v_suffix
		↑=↓	↑=↓

This rule reads, in plain English, as follows: by adjoining a verb-suffix to the first stem of a given verb, i.e. the root plus the theme vowel, another verb is created [35]. All the features of the base verb and

of the stem extension are projected into the derived verb unless they are explicitly blocked; they are subject to unification [36].

As to its lexical constraints, -SK- accepts intransitive state or activity verbs; cf. (12a). Descriptively, it also accepts transitive achievement verbs, making the latter intransitive, cf. (12b):

(12) a. *taceo* 'to be silent – *tacesco* 'to stop talking' (H420)
b. *sano* 'to heal, make well' – *sanesco* 'to get better, recover' (H434)

However, as has been argued in section 4.2.2 above, *sanesco*, rather than being directly derived from *sano,* is derived from a virtual verb **saneo*.

In the following section, such lexical constraints, will be made more explicit. They will be spelled out in the semantics of DPRED SK; thus the constituence will be constrained by the semantics.

5.1.2. Semantics

After this discussion of the constituent and functional structure of Latin -SK-, the polysemous semantics of the feature (↑ DPRED) = 'SK (ARG PRED)' contained in representation (9) remains to be made explicit. Remember that the variant readings distinguishable on the basis of Haverling (2000) were the dynamic reading, the ingressive reading, and the void reading. We will see now how these readings can be represented, and how they are related to each other. The essential idea is this: the sk-verbs refer to events. These events may vary with respect to their impact on the situation: they may bring about changes of state, but also be just something 'dynamic'.

Let me begin with the ingressive reading. It is not the first to appear, but its representation is straightforward. I represent the meaning of ingressive -SK- as a function $SK_{ingr(essive)}$. This function creates predicates whose decomposition contains the constant BECOME. The arguments of BECOME are an individual *x* and a predicate *p*, whose argument is the same individual *x*. So the output of SK_{ingr} has the general form BECOME (x, p(x)). Using the conventional notation taken from lambda calculus, I formulate the function as (13).

(13) *The ingressive reading of Latin -SK-*
SK_{ingr} *applies to* [$\lambda x\ p_1(x)$]
and yields $\lambda x\ \exists e\ p_2(e,x)$ *where* p_2 = BECOME(x, $p_1(x)$)

This is to be read as follows: if the derivational function SK_{ingr} is applied to some one-place predicate p_1, denoting a simple property (state or activity) of an individual *x*, the result is a new, two-place

predicate p_2, which inherits the individual x, and asserts the existence of an event e, in which x acquires the property p_1.

Notice that there is no eventual variable in the input of this rule. This is meant to express underspecification: alternatively predicate p_1 may refer to a state or some other stative property. Furthermore, the input to the function must not be an ingressive verb, i.e. p_1 must not imply the predicate BECOME. We do not state this explicitly, because it is implied in the function.

The representations of the other two readings are less obvious. Let us first consider the dynamic reading. We could represent it by an additional predicate DYNAMIC (e), but that would be an unnecessary proliferation of semantic primitives. Instead, we reuse the functional notation, but identify the present reading by a subscript, and formulate a new function $SK_{dyn(amic)}$, which introduces an event ontologically "above" the one introduced by $SK_{ing(ressive)}$. As we have seen (section 4.1.2), the dynamic reading shows a certain amount of fine-grained semantic variation. We account for this by assuming that the output of the function is underspecified, but do not spell out the various ways of specification.

'Dynamic' -SK- can then be represented as follows:

(14) *The dynamic reading of Latin -SK-*
SK_{dyn} *applies to* $[\lambda x\ p_1(x)]$
and yields $\lambda x\ \exists e\ p_2(e, x)$
where $p_2 \rightarrow [p_1\ \wedge\ p_2 \neq \text{BECOME}(x, p_1(x))]$

Like ingressive -SK-, its dynamic variant introduces an eventual variable and creates a new predicate, but this predicate does not imply the predicate BECOME.

Notice that (14) does not put any constraints on predicate p_1, in such a way that the function seems to heavily overgenerate. However, p_1 is restricted by the structure of the model, it only applies to predicates realized by verbs. The representations given in the present subsection actually are referred to the feature DPRED=SK contained in the lexical representation given as (9) in section 5.1.1. In (9) -SK- is categorized as a verb suffix, and according to rule (11) that category is a constituent of the verb. I do not go into the more fine-grained restrictions. They certainly exist, but they do not seem to be relevant for the purpose of this paper.

As to the void reading, the simplest way of representing it is just to omit the DPRED-feature from the lexical representation of the suffix. When there is no DPRED, there is no semantic effect.

Regarding the diachronic process, the relationship between the three readings can be understood in the following way: in Early Latin the dynamic reading is predominant. The ingressive reading does appear soon, but can only later be regarded as a property of the suffix. In fact, in the beginning, it only occurs when the verb is prefixed [37]. Subsequently, it became a property of the suffix itself. Simultaneously, the dynamic reading is lost and the void reading appears [38]. So, in a schematic view, we can distinguish two stages, one in which the dynamic reading is predominant and the ingressive reading is emergent, and a following one, in which the dynamic reading has gone, the ingressive reading is fully developed, and the void reading has made its appearance; cf. (15):

(15) Stage 1: dynamic reading, ingressive reading emergent
Stage 2: ingressive reading and void reading [39]

Regarding the polysemy of -SK-, there was no true polysemy at the first stage. Rather, sk-verbs had a meaning variation that depended on the presence of a prefix. At the second stage, -SK- was polysemous. The polysemy was resolved by the input conditions on the functions which specify the readings: ingressive -SK- selects non-ingressive verbs, void -SK- selects event verbs.

Finally, it must be observed that sk-suffixation is not a typical word formation process. Firstly, the rule is sensitive to inflection (no -SK- in Perfect stems), and, secondly, in the semantics of -SK-, there is a reading where -SK- does not trigger a change in lexical meaning, whereas derivational affixes typically do this. At any event, the formal analysis of Latin -SK- has suggested that -SK-'s life as a derivational suffix might be more precarious than that of other, more prototypical ones, and that the passing of that suffix from word formation to inflection already was at a preparatory stage during the Latin period.

6. Reconstructing the development from Latin to Italian and French

As an introduction to this section, I will summarize the analysis of Latin -SK-, repeating the lexical representation of Latin -SK- given as (9) and completed by (10) in section 5.1.1; I will then add the lexical representation of semantically void -SK- and the representations of its Italian and French successors.

(16) *Latin -SK-, before the void reading appeared*
sk, v_suffix
(↑ DPRED) = 'SK (ARG PRED)'
(↑ TENSE) = ¬ {PERFECT, PLUPERFECT, FUTURE_PERFECT}
(↑ CLASS) = III
(↑ /CLASS) = (↓ /ARG CLASS)
For the notation, see 5. above.

(17) *Latin -SK-, void reading*
sk, v_suffix
(↑ TENSE) = ¬ {PERFECT, PLUPERFECT, FUTURE_PERFECT}
(↑ CLASS) = III
(↑ /CLASS) = (↓ /ARG CLASS)

In Italian (18) and French (19), the category and all functional features are changed with respect to (16).

(18) *Italian*
sk[40], stem_ext
(↑ CLASS) = IVa
(↑ TENSE) =$_c$ PRESENT
(↑ MOD) = ¬ INF
(↑ PERS&NUM) = ¬ {1PL, 2PL}

The value of the class feature, IVa, refers to verbs like *finire*, which show the augment, as opposed to verbs like *dormire*, which do not. The symbol "=$_c$" means that the attribute TENSE must be specified. The feature (↑ MOD) = ¬ INF, where INF is abbreviated for "*verbum infinitum*", excludes the participle, the gerund, and the infinitive. The feature PERS&NUM is not a canonical one, since Person and Number are features in their own right. We merge them into one feature to account for the paradigmatic nature of the restriction: the feature (↑ PERS&NUM) = ¬ {1PL, 2PL} refers to Maiden's "N-pattern" (Maiden 2004: 6), mentioned in the *Introduction*.

(19) *French*
s, stem_ext
(↑ CLASS) = IVa
(↑ TENSE) = ¬ {PERFECT, FUTURE, CONDITIONAL}
(↑ INF) = ¬ {INFINITIVE, PARTICIPE_PASSÉ}

The feature in the last line expresses the fact that the Infinitive and the *participe passé* exclude -SK-, whereas the *participe présent* accepts it.

Attribute INF ("*infinitum*") refers to the non-tensed verb forms. The feature expresses the fact that the infinitive and the *participe passé* exclude -SK-, whereas the *participe présent* accepts it.

The differences leap to the eye: there is no derived predicate in Italian and French; consequently, there is no semantic effect. The restrictions on tense are different in all three representations, and there is a surprising restriction on Person and Number in Italian. Moreover, the value of the class feature has changed in the transition from Latin to Italian and French.

On the contrary, the general rule that adds stem extensions to verb stems (20) did not change from Latin to Romance. What did change is its lexically represented input: -SK- was not categorized as a stem extension in Latin. Slightly simplified, the rule can be formulated as (20):

(20) *The rule for stem extensions*

v	→	v-stem	stem_ext
		↑=↓	↑=↓

In accordance with representations (17)-(19), the diachronic process that leads from Latin to Italian and French can be decomposed into five partial processes, namely:

a. The loss of -SK- as a derivational suffix
b. The emergence of -SK- as an inflectional constituent
c. The merger of i-verbs and sk-verbs
d. The distribution and spreading of -SK- within the new paradigms
e. Lexical spreading and the survival of i-verbs without -SK-

The motivation of this decomposition is methodological: it is meant to make the overall process more transparent. Hence, it is neither chronological, nor are the partial processes entirely independent from each other. Processes a. and b. are intertwined and precede the others, logically and in time. Likewise, process e. logically presupposes process d., and chronologically is coextensive with it. In the following, I will first return to the contrast of weak vs. strong explanations, taking as a starting point the explanation of process a. (section 6.1). I will then come back to the remaining processes (section 6.2).

6.1. The loss of the SK- derivation and internal explanations of change

How can the loss of the Latin SK- derivation be explained? According to Di Fabio (1990:167) the Latin rule of SK- derivation was lost because its input material was no longer available. She claims

that all Latin sk-verbs were derived from "stative" verbs and that these verbs "have been lost"[41]. Even though this formulation probably is too general, the second conjugation, to which the input verbs belonged, has far less lexical weight in Romance than in Latin. Thus Di Fabio's general idea seems to be correct: the input available shrunk dramatically and the suffix died, so to speak, from starvation.

Another bit of explication can be added. The output of the rule no longer fits into the productive system of verbal inflection. The Latin third conjugation, to which the sk-verbs belonged, also was losing lexical weight. Thus the SK- derivation died from changes in the system of inflectional classes.

A third reason certainly lies in the fact that Latin -SK- was untypical as a suffix of word formation. It was untypical since the earliest periods because its application was conditioned by inflection, and it became still more untypical when, in later periods, the void meaning came to the fore.

Notice further that SK- derivation was to some extent redundant. Losing it, Latin did not lose the ability to form ingressive verbs. In addition to deriving ingressive verbs from verbs by sk-suffixation, Latin could directly derive ingressive verbs from adjectives by conversion; cf. *maturus* 'ripe' – *maturare* 'to grow ripe, ripen'[42], *grandis* 'big' – *grandire* 'to increase', 'to become bigger'). Thus there were two competing ways how ingressive verbs could be created, and only one of them was lost.

Helpful as they may be, these are still weak explanations of -SK-'s evolution to an inflectional constituent. They immediately raise questions of why the second and the third conjugation became unproductive, why the suffix did not appear in the Perfect stems, and how the void meaning originated. They view the change in a coherent context of other changes, making it better understandable. But they do not relate the change to a higher level of general principles. As long as such an explanation is not found – and possibly there is no strong explanation specific to this change – we have to accept that the changes under discussion just happened.

This brings us back to the problem of internal explanations of language change. Is it reasonable to look for strong explanations of specific changes? Is explaining the loss of some component of the generative system not an overambitious goal for historically oriented linguistics?

Such a program would need to comprise two parallel sub-programs: one for the reconstruction of specific changes and the other

for the search of a model of the language faculty that supports the reconstruction of change. The reconstruction of specific processes of change requires that each change under investigation be located in the context of other changes, in the same language, at the same time. If based on sound philological methods, such work will yield valuable knowledge about the diachronic variation of single languages. The model of the language faculty to be elaborated is not required to yield strong explanations for each and every single change. It must rather explain why languages change at all, and it must provide the grounds upon which hypotheses about how specific changes came about can be founded. I will propose some elements that such a model would need to contain in order to make it possible to form hypotheses about morphological change, namely:

- If a piece of word formation is dropped from the morphological system, it leaves its lexicalized output behind, for which only direct lexical access is available.
- A new morphological access can emerge on the basis of general cognitive abilities: the ability to recognize recurrent strings, of interpreting strings as elements, of organizing strings into patterns, and of reproducing patterns.
- Morphological innovations can thus originate from pattern recognition and imitation [43].

6.2. The rest of the story

After this methodological digression, let us return to the development of -SK-. I will first discuss the emergence of inflectional -SK-.

6.2.1. The emergence of inflectional -SK-

After the loss of word formation with the suffix -SK-, one would have expected that this suffix be doomed to disappear. But the contrary happened: -SK- survived as a phonological string. In order to understand this, it is useful to consider the situation of the lexicon after the loss of sk-derivation. On the basis of the model sketched above, it can safely be assumed that, after sk-derivation has disappeared from the productive morphological system, the lexicon still contained syntactic words created by that rule. These words only had direct lexical access, since there was no longer a morphological rule capable of parsing them. Such a situation favors reanalysis, and reanalysis actually took place. It can be decomposed into the following steps:

a. The string /sk/ was recognized as recurrent and was interpreted as a morphological constituent.

b. Given that -SK- occurred in syntactic words, that it was present only in a subset of the forms, and that its distribution depended on tense, it was assigned to the domain of inflection.
c. After this reanalysis, -SK- was generalized to other verbs by pattern imitation.
d. Then a transition took place from a mere pattern to a rule-based grammatical structure.
e. Since in the lexicon there were no Perfect stems with -SK-, the innovation did not apply to these stems.
f. Since the reanalysis did not imply any new semantic value, -SK- developed into a morphomic class marker.

If the process of reanalysis took place in the way assumed, this explains how the morphological constituent -SK- could survive, why it acquired a role in inflection, and why there is no -SK- in the Perfect stems.

Before going on to the remaining partial processes, a short comment is in order. The reader will have noticed that the way in which step d. has been formulated hides a puzzle. In fact, a transition from a pattern to a rule-based structure is said to be a decisive step from general cognition to grammar. This presupposes that what we call grammar is not just a product of general cognition and experience, but that general cognition comprises more specific components, and that one of these is the grammar faculty, i.e. the ability of grammar acquisition.

Admittedly, we cannot delimit that faculty by identifying a precise borderline. One reason for this lies in the state of the art: the universal constraints on human languages are controversial because we just do not know enough about them. Another reason lies in the object itself: the facts of language change teach us that general cognition and the grammar faculty must be closely connected, in such a way that gradual processes can take place between them.

Nonetheless, it may be assumed that the acquisition and processing of patterns is distinct from grammar. Pattern recognition is the ability to recognize similarities between perceived objects. It applies to all kinds of given objects, hence, also to linguistic objects. It may become productive as pattern imitation, which I define as the production of novel objects similar to a specific, prototypical object or set of objects. A rule-based grammatical structure, in contrast, is more general, inasmuch as it does not refer any longer to such a specific, prototypical object. Instead, a new, abstract category has emerged, and groups together a set of lexical objects. The transition from pattern to rule certainly is a gradual one, and intermediate stages are likely to

arise. However, if such a transition is completed, there will be a point of reversal, starting from which reference to some specific object has ceased to determine production.

Coming back to morphology, the transition from a pattern to a grammatical structure may well be one of the main mechanisms of morphological change, and I claim that it is an important factor in the story of -SK-.

Let us turn now to the next partial process, the merger of i-verbs and sk-verbs. (Readers familiar with the Romance data may skip this section.)

6.2.2. The merger of i-verbs and sk-verbs

In Latin all sk-verbs belonged to the third class (section 4.2.2). In French and Italian, however, -SK- is characteristic of the -i-conjugation, which continues the Latin fourth class. How did this change come about? A partial answer can be found in the context of the Romance reorganization of the Latin conjugations.

The second and third Latin conjugations had partially merged; cf. Tekavčić (1980:255). Due to the presence of an /i/ in a subclass of the third conjugation (examples *fugere* – *fugio* 'to flee') – Tekavčić calls this the fourth conjugation – and to the sound change which turned short prevocalic /e/ into /i/ (example *florĕo* > *florio* 'to blossom'), numerous forms of the second and third conjugation resembled forms of the fourth conjugation. Thus *fugio* (third conjugation) and *florio* (second conjugation) resembled *audio* 'to hear' (fourth conjugation) and were "attracted" to that inflectional class. *Fugĕre* became *fugire* > It. *fuggire*, and *florēre* became *florire* > It. *fiorire* (Tekavčić 1980:256).

But this lexical enlargement of the Latin fourth class is not a satisfactory explanation of the fortune which -SK- had in this class. Since words, not suffixes, undergo changes of inflectional class, one would like to see Latin sk-verbs of the third class that moved to the fourth class. Such words, however, are hard to find [44]. Most of the attested Latin sk-verbs did not survive in Romance, and those which did, stayed in the third conjugation. They did not contain an -i- that could have motivated the passage to the i-class. We do find a few Latin verbs of the fourth conjugation which have a counterpart with -SK-:

(21) *dormio* 'to sleep, be asleep, fall asleep' vs. *dormisco* 'to fall asleep', *addormisco* 'to fall asleep' and other prefixed verbs derived from *dormio* (H426); *grandio* 'to make big, to become bigger' vs. *grandesco* 'to increase in size, grow, swell' (H432); *mollio* 'to make soft, become

soft' vs. *mollesco* 'to become soft or yielding'; *sentio* 'to be aware of, hear' vs. *sentisco* 'to be becoming aware of, be gradually perceiving' (H427).

Of these, only *addormisco*, *grandesco* and *mollesco* bore Romance offspring, so that *addormisco* survives in Southern Italy [45]; *grandesco* survives as Fr. *grandir*, It. *ingrandire*; *mollesco* corresponds to Fr. *ramollir*, It. *ammollire*. But at the Latin stage, none of these verbs is attested as having a variation from the third to the fourth conjugation.

A bridge [46] may be seen in the fact that there are Latin deponents of the third class that had the sequence long /i/ plus -SK- at the right-hand edge of their stem; cf. the following list, which is compiled from Haverling (H399ff), Gildersleeve & Gonzalez Lodge (1997:112f), and Lewis & Short (1879):

(22) *apīscor* 'to get', with prefixed *adipīscor, indipīscor* 'to get', *redipīscor* 'to get back', *comminīscor* 'to think up' and *reminīscor* 'to remember', *ercīscor* 'to divide', *expergīscor* 'to awake', *fatīscor* 'to grow tired', *frunīscor* 'to enjoy', *nancīscor* 'try to get', *oblivīscor* 'to forget', *pacīscor* 'to drive (a bargain)', *proficīscor* 'to set out', *ulcīscor* 'to avenge'.

For such verbs, to become a bridge, their internal structure had to be reanalyzed. In particular, the segment /i/ had to be reanalyzed as the theme vowel of the verb as a whole. The only evidence we have for this is the fact that *nancīscor* had a variant without /i/, which belonged to the fourth conjugation, *nancio*, Infinitive *nancīre*. There remains a doubt, however, because all these verbs have disappeared, and we do not know whether they were still present when the massive switch of sk-verbs to the fourth conjugation took place.

6.3. The spreading of -SK-

The concept of spreading assumes that a morphological innovation first appears in a restricted domain and then is gradually applied to a larger domain. It takes place in two dimensions, in the paradigm and in the lexicon. Paradigmatic spreading occurs when some property of a specific cell, or a small number of cells, extends to other cells. Lexical spreading occurs when some property of a specific word, or a small number of specific words, extends to other words. The paths of paradigmatic spreading may be located along parameters of language use (cells which are less 'important' are reached later) or with respect to paradigm-internal groupings of cells (certain cells usually go toge-

ther, have the same stem, or the same syncretistic endings). The paths of lexical spreading, by contrast, may consist of a wide variety of lexical similarities, phonological, semantic, etc. Let us first consider paradigmatic spreading.

6.3.1. Paradigmatic spreading

We come back now to the distribution of Romance -SK- in the verbal paradigms. One of its aspects has already been clarified: the absence of -SK- in the Latin Perfect stems leads directly to its absence in the Perfect stems of French and Italian. But the remaining distribution and its cross-linguistic variation need to be explained.

The distribution of -SK- in the paradigms of verbs like French *finir*, Italian *finire*, may be considered the result of incomplete paradigmatic spreading. The process must have started from one (or more) of the lexicalized and reanalyzed forms containing -SK-, obviously some form of the Present Indicative, e.g. from the first Person Singular, and then spread to other forms of the Present. In Tuscan, the main source of Standard Italian, it did not reach all the forms of that partial paradigm. In French, on the contrary, paradigmatic spreading of -SK- did not stop at this early stage. It reached all cells of the Present tense, and then proceeded to the Imperfect, and to the Gerund (the *participe présent*, in the traditional French terminology). The spreading remained incomplete in French as well, but it brought about a stem dominant enough to be admitted in word formation, in such a way that it could become the base of agent nouns and event nouns, e.g. *blanchisseuse* 'laundress', *blanchissement* 'whitening'. In other languages, in particular in Friulan, Lombard and Corsican dialects (Maiden 2004:31), it even reached the Future and the Conditional (two tenses which always have the same stem). The examples under (23) are from Di Fabio (1990:209), confirmed by Vegnaduzzo (1999:7).

(23) *partissarai* 'I will leave', *partissares* 'I would leave'

The interesting question raised by these data concerns the paths of spreading. It is quite obvious that the spreading should start in the Present, and not, e.g. in the Future. But why should that be so? The answer, again, lies in the processes of lexicalization. A spreading process must start from some lexicalized form, and, given the communicative importance of the Present, we should expect that some form of this tense would become lexicalized strongly enough to become the starting point of the spreading.

But this is not the whole explanation. The following questions remain to be answered:

a. Why, in Italian, did the first and second Person of the Plural form an island that was not reached by the spreading?
b. Why does the Present, in French, not show any islands of resistance to spreading?
c. Why does the spreading, as shown by the comparison of French and Friulan (23), reach the Imperfect before the Future?
d. Why is the French Gerund affected, but not the Past Participle or the Infinitive?

The answers that can be given at present are language specific, that is, they are weak explanations. The only points that come into sight above the level of language specific relationships are that a. change happens in the interplay of innovation and persistence, b. the lexicon (including morphology, considered as its extension) is a (the?) *locus* of change, and c. change can bring about and durably establish structures that are not meaningful. But these assumptions are no explanations proper; if they are not trivial, they are far too remote from the facts we are discussing. So let us look at the language specific level.

The answers we can give relate to a Romance innovation on one hand and the persistence of Latin structures on the other.

I will first formulate, or rather reformulate, the answers that draw upon innovation. They largely follow Maiden (2004): the distribution of -SK- realized an abstract, paradigmatic pattern of stem variation, which originated from sound change and its morphologization. This explanation answers question a., and, beyond, accounts for the entire distribution of -SK- in Standard Italian. I also follow Maiden when he assumes that all distributions beyond that are due to ulterior spreading [47].

Let us turn now to questions c. and d. The facts from which these questions arise suggest that the spreading process follows a temporal order. And if we envisage paradigms as spatial objects, we can try to localize areas from which the spreading starts and others, along which the spreading proceeds in a sequence. Thus the Present can be seen as the area from which -SK- started its path through the paradigm, the Future-and-Conditional area may be identified as the one that is reached latest (French did not reach it, but Friulan did); the Perfect is an area that presumably has never been reached, and the *participe présent* is somewhere in between. Admittedly, this is a very tentative idea, moreover it is merely based on a narrow cross-linguistic comparison. Thus French suggests that the Imperfect is positioned

between the Present and the Future, but there are Italo-Romance dialects where the successor of -SK- reached the Future, but did not reach the Imperfect [48]. Hopefully, further research will shed more light on the intricate paths of paradigmatic spreading.

6.3.2. Lexical spreading

Regarding the spreading of -SK- in the lexicon, it has already been pointed out (3.2.2) that a single, particular verb could not be identified as the starting point of the process. We know only, and quite trivially, that -SK- spread to almost all verbs of the -i-conjugation and only a few verbs were excepted, which led to a bifurcation within that conjugation. These sk-less i-verbs are listed under (24) for French and (25) for Italian. The criterion is the presence of theme vowel -i- in the Infinitive; the prefixed cognates of the verbs are not included.

(24) French: *acquérir* 'to purchase, to gain', *assaillir* 'to assail', *bouillir* 'to boil', *couvrir* 'to cover', *cueillir* 'to pick', *courir* 'to run', *dormir* 'to sleep', *fuir* 'to flee', *gésir* 'to be lying (down), *mentir* 'to lie', *mourir* 'to die', *offrir* 'to offer', *ouvrir* 'to open', *partir* 'to leave', *se repentir* 'to regret', *sentir* 'to feel', *servir* 'to serve', *sortir* 'to exit', *tenir* 'to hold', *venir* 'to come', *vêtir* 'to clothe'.

(25) Italian: *aprire* 'to open', *assorbire* [49] 'to absorb', *bollire* 'to boil', *coprire* 'to cover', *cucire* 'to sew', *dormire* 'to sleep', *fuggire* 'to flee', *mentire* 'to lie', *morire* 'to die', *offrire* 'to offer', *partire* 'to leave', *pentirsi* 'to regret', *salire* 'to go up', *sentire* 'to feel, to hear', *servire* 'to serve', *tossire* 'to cough', *udire* 'to hear', *uscire* 'to exit', *venire* 'to come', *vestire* 'to clothe'.

Resistance to lexical spreading may have two causes: either the resistant words were not reached because they were, so to speak, too remote from the center of the innovation (in terms of some metric of similarity), or because some of their inflected forms were lexicalized strongly enough to be shielded from the change. Likeably, this holds for most of the verbs listed above. The languages in which the spreading also reached these words, as Friulan – see (22) – show that lexicalization actually is relative and lexical spreading is progressive, so that different languages can show differing results from the same process. Moreover, a given process of lexical spreading may go on for a long span of time, and it is not unreasonable to think that the spreading of -SK- is still active.

The vocabulary in which lexical spreading takes place also undergoes other changes, and these may have an impact on the spreading.

Thus Old French [50] had some inherited sk-less i-verbs that are extinct in Modern French, such as *oïr* 'to hear', *ferir* 'to hit'. In addition to the inherited ones, more sk-less i-verbs came about by sound change, thus the defective Modern French verb *gésir* and some Old French verbs, now extinct, such as OFr. *issir* 'to move out' < Lat. *exire*, *leisir* 'to be allowed' < Lat. *licēre*, OFr. *pleisir* 'to please < Lat. *placēre*, and OFr. *teisir* 'to be silent' < Lat. *tacēre*. These verbs, coming into the sk-less i-class by non-morphological change, increased the quantitative weight of that class, which, then, could attract other verbs, *acquérir* (and other verbs built upon the root *-quér-*), *courir, tenir* and OFr. *tolir* 'to take away'. These verbs moved away from their original second or third conjugation without a sound change that might have motivated the switch. *Acquérir* goes back to Old French *querre* 'to seek', and *courir* was *courre* in Old French. Both Old French verbs still belonged to the same inflectional class as their Latin predecessors, *quaerĕre* and *currĕre*, and joined the sk-less i-class on their way to Modern French. OFr. *tenir*, from Latin *tenēre* 'to hold', and OFr. *tolir*, from Latin *tollĕre* 'to take away, had undergone the same shift earlier.

On the other hand, the class of sk-verbs also was strengthened by new members. They originated form the contact with the Franks, when verbs like OFr. *guarir*, Mod. Fr. *guérir* 'to heal' were borrowed. In the donor language these verbs contained the Germanic causative -j-, which was a suffix of word formation. In Gallo-Romance, it was adapted as theme vowel -i-, e.g. OFr. *guar-i-r*, Mod. Fr. *guérir* 'to heal' < Germ. *war-j-an*, and the Old French i-verbs of this origin joined the sk-class; cf. subjunctives like *garisse*, *guaresist* (Marie de France, *Lais,* Rychner 1983, *Glossaire*, s.v. *garir*), *guarisset* (*Voyage de Charlemagne*, Aebischer 1965, *Glossaire*, s.v. *garir*) [51]. Interestingly, the etymology of OFr. *guerpir* 'to leave' is *werpan* rather than *werpjan*; this may be understood as evidence for the attraction of the i-class, even without /j/ in the original form, and as a confirmation of the claim that there are "autonomous morphological structures" (Maiden 2003:19) [52].

7. Conclusion and outlook

According to the program progressively developed during the analysis, I have tried to reconstruct a morphological change, and to relate, whenever possible, the reconstruction to a higher, explanatory level. Admittedly, certain aspects of the development of Latin -SK- still remain unclear, and the assumptions made about general prin-

ciples are still intuitive and vague. They are not supported as yet by empirical evidence that I know of, but they cover certain observable facts. I hope to have made a plausible case that morphological change can adequately be reconstructed when two general factors of change are taken into account, lexicalization and its consequences, and the autonomy of morphological structure. To make these assumptions more precise and to test them independently from the historical data discussed here is a task of future research.

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Notes

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1 I am using this term in the sense of Aronoff 1994, i.e. -SK- is merely stem-building; it does not realize any of the syntactic or semantic features involved in the inflectional system.

2 For a survey that covers the entire Romance area, see Maiden (2004).

3 "In the case of the inflectional paradigm, a stress conflict arises when the infix, which requires stress, is added to a form which has a stressed desinence, and the infix is deleted" (Di Fabio 1990:33).

4 Thus the It. sequence [do't:o:r] + ['ros:i] *dottor Rossi* becomes ['dot:or 'ros:i]. If the stress clash were resolved by the deletion of a syllable, one would get, *[do'ros:i] *do' Rossi*.

5 This argument is presented with more detail in Schwarze (in press).

6 I am using the term "language" indifferently for both, languages and dialects. The languages concerned are Romanian (Mallinson 1988:406f), Italian (Vincent 1988:294), Rhaeto-Romance (Haiman 1988:358), French (Harris 1988:223), Occitan (Wheeler 1988a:261), and Catalan (Wheeler 1988b:183). In Spanish, -SK- also survived, but did not become an inflectional affix. It has become a part of the root and, accordingly, is present in the entire paradigm. In some Spanish derived verbs -SK- is still recognizable as a suffix that conveys them an ingressive mean-

ing, cf. *anochecer* 'to fall', said of the night, *envejecer* 'to become old or older', from *noche* 'night and *viejo* 'old' respectively. But in other cases it lost its meaning, cf. *obedecer* 'to obey', *parecer* 'to seem', *permanecer* 'to stay', *pertenecer* 'to belong'. Moreover, its palatal vs. velar variation spread to all verbs whose roots end with the segment which is now /θ/ in Castilian; cf. *conocer* 'to know' - *conozco* 'I know', *traducir* 'to translate' - *traduzco* 'I translate'. As Maiden (2004:22) reports, an ingressive -SK- has also survived in a number of verbs of the Apulian dialect of Altamura (Loporcaro 1988:252). It is restricted to the 3rd conjugation (verbs in *-ere*) and appears throughout the paradigm. It coexists with the meaningless -SK- of the 4th conjugation. So both, the Spanish and the Standard Italian type seem to be combined in this dialect. Interestingly, this coexistence is "anchored to conjugational classes and to different patterns of paradigmatic distribution" (Maiden 2004:22).

[7] The first, to my knowledge, to point out the contradictory nature of the principles governing linguistic variation and change was Frei (1929).

[8] I owe this information to one of the anonymous reviewers.

[9] A quantitative study of Latin -SK- certainly is a *desideratum*, but it would be way beyond the possibilities of the present study.

[10] Baayen (2007) strongly argues against the cognitive reality of rules in the mental processing of words. However, I tend to think that Baayen's psycholinguistic findings, rather than falsifying the assumption of double access to regular complex words, only show the enormous role of lexical storing.

[11] Henceforth I will abbreviate Haverling (2000) as H. Thus "H154f" means "Haverling 2000:154f".

[12] Haverling's first category, which contains verbs like *cresco* 'to grow', *disco* 'to learn', *(g)nosco* 'to know' will not be comprised in the analysis, because their suffix did not cross over to inflection in the Romance languages, but merged with the root, cf. Lat. *cre-sco* vs. It. *cresc-ere*, Fr. *croît-re* (OFr. *creist-re*, *croist-re*).

[13] "The main function of the *sco*-suffix in the earlier centuries is to indicate a gradual process …" (H189).

[14] Notice that this use of the term slightly differs from Haverling's: many of the verbs she describes as "dynamic" actually are ingressive.

[15] The sk-verbs with this reading are derived from verbs, which may be non-dynamic as well as dynamic. In the latter case, "the opposition between the unsuffixed and suffixed verb is that between a dynamic verb which expresses the action proper and a *sco*-verb which underlines the gradual character of this action" (H177f).

[16] This is in agreement with Maiden (2004:8): "The broad consensus about Latin -sc- is that it carried not so much "inchoative" value (although the augment is often labeled thus), as 'ingressive' value, i.e. not expressing just beginning, but 'becoming, entering a state'." See also Zamboni (2000:134): "… /SK/ … marca … aspettualmente (o come Aa <i.e. *Aktionsart*>) un *cambiamento* di stato"

[17] "In the earlier periods, <the function of the *sco*-suffix> is dynamic but non-terminative" (H450). According to Maiden (2004:8), a 'transformative' value developed from the ingressive reading. I do not know how to map Maiden's terminology on Haverling's; my own attempt to analyze the development rests upon how I understand Haverling and how I interpret her data.

[18] "… prefixation is needed to make a verb terminative" (H178).

[19] "In the later periods, we encounter new *sco*-verbs which do not differ palpably in sense from the verbs from which they were formed"; *tuberans* (old verb) and *tuberascens* (new verb) both mean 'swelling, protuberating'; *fumo* (old verb) and *fumesco* (new verb) both translate with 'emit smoke' (158f). The same holds for deadjectival SK-verbs: "In the later centuries the difference between the non-ter-

minative and terminative processes becomes blurred and also the dynamic and gradual semantic function of the *sco*-suffix is lost" (H189f). See also H138, 171, 178, 452.

[20] "È … possibile … che il livello morfologico-flessivo delle LR <i.e. lingue romanze> attuali … sia stato preceduto nella fase di transizione da uno stadio funzionalmente flessivo in cui /sk/ potesse connotare o no lo stesso lessema, di volta in volta con opposte marche aspettuali (/sk/ perfettivo ~ ø imperfettivo). Lo lascerebbero intendere casi storici di doppia morfologia come quelli dell'it. antico *fino* "finisco" e *fiore* "fiorisce" (entrambi del sec. XIII) …; e soprattutto alcuni relitti ormai peraltro lessicalizzati dell'italiano, quale *partire* (telico: *parto*, *parte*) e *(s)partire* "fare in parti" (trasformativo: *partisco*, *partisce* …" (Zamboni 2000:136).

[21] One of the anonymous reviewers actually raises this question. He mentions that Irish is a language where an original progressive was semantically bleached and became plain Present tense. He suggests that, analogously, the -SK- might have had a progressive reading, which would then have been be the starting point of the evolution.

[22] According to Haverling (H172), Lat. *capisco* is "the ancestor" of Italian *capire* 'to understand', one of the numerous sk-verbs of that language. It is uncertain, however, whether this ancestor has to be directly identified as *capisco*, or rather as *capio*, with a subsequent switch to the Italian -SK-class. The latter assumption is more plausible, given the enormous frequency of *capio* and the scarce attestation of *capisco* in Latin.

[23] His reconstruction is not "rilevabile in modo paradigmatico", but can be gathered "soltanto da indizi sparsi" (Zamboni 2000:136).

[24] I am using the term "thematic vowel" in the way it is generally used in Romance linguistics: -a- is the thematic vowel of *cantare*, -i- is the thematic vowel of *finire* etc.

[25] Haverling groups the Latin sk-verbs into four categories (H138). Category 1 comprises the oldest layer, where, as in *cresco* 'to grow', the augment directly follows the root. Category 2 contains those cases where -SK- makes a transitive verb intransitive, as *invetero* 'to make old' vs. *inveterasco* 'to grow old' (H153). Category 3 contains "the verbs that were formed from unsuffixed verbs with which they correspond in the opposition non-dynamic – dynamic […] or in an opposition between various degrees of dynamicity […]"; her examples are *aceo* 'to be sour' vs. *acesco* 'to become more and more sour, to grow sour', *dormio* 'to sleep' vs. *condormisco* 'to fall asleep', *permano* 'to flow through' vs. *permanasco* 'to seep through gradually' (H408). Category 4 contains sk-verbs derived from nouns or adjectives, such as *siccesco* 'become dry', derived from *siccus* 'dry' and *puellasco* 'to become like a girl', derived from *puella* 'girl'. The tables I am referring to concern the verbs of category 3.

[26] I consider /ask/, /esk/ and /isk/ as sequences of a thematic vowel and the suffix -SK- rather than as context-sensitive constituents. I prefer this analysis, because context-sensitive rules are more costly.

[27] For some, such as *sanesco*, there does exist a verb stem derived from the same root, cf. *sano* 'to heal', which is first conjugation and has theme vowel -a-. But these deadjectival a-verbs are not an input to sk-suffixation: they refer to causative events, whereas the corresponding e-verbs typically refer to states.

[28] An alternative is to assume that the phonological string /esk/ was reanalyzed as a suffix, -esk-. This assumption would simplify the analysis of the deadjectival and denominal sk-verbs, but it would complicate the reconstruction of the deverbal ones. It would imply either a change regarding the derivational bases (the new suffix would no longer be attached to stems, but to bare roots), or the appearance of an additional morpho-phonological rule (the original theme vowel must be deleted). So this alternative does not seem to be preferable to the one proposed here.

[29] "Some scholars have believed that a verb like *senesco* has the same Perfect tense form as *seneo*, i.e. *senui* (H210).
[30] "Others have observed that the Perfect tense form with an ingressive sense generally has a prefix, and that the unprefixed Perfect tense form often expresses a non-dynamic sense, so that the system is *duresco – obdurui* and *dureo – durui*" (H210).
[31] Ingressivity, one of the readings of Lat. -SK-, is a kind of perfectivity, and perfectivity is associated to the Perfect. So the addition of -SK- would actually cause a certain redundancy, and one might consider regarding the ingressive reading of -SK- as the reason why -SK- does not appear in the Perfect. But redundancy may well be tolerated in morphologically complex forms; cf. It. *uomini* 'men', where plurality is encoded in both, the stem and the ending.
[32] Notice that I am using "polysemy" and "reading" as descriptive terms. In the following, polysemy will be represented via functions that derive predicates from one given predicate.
[33] This analysis is in accordance with Di Fabio (1990:168): "… we hypothesize that all change-of-state verbs are deverbals. They derive from either an attested primary verb or an unattested one".
[34] For more details on the attribute DPRED see Mayo (2001).
[35] The reader will have noted that this rule is recursive, but, of course, the adjunction of stem extensions is not recursive. A more detailed formulation of the rules should block recursion.
[36] For those readers who would like to see how the lexical representation and the rule interact, I give a sketchy representation of the derived verb *duresco*: *duresc*, v, (↑ PRED) = 'SK [DURARE (SUBJ)]', (↑ CLASS) = III.
[37] "The main function of the *sco*-suffix in the earlier centuries is to indicate a gradual process: for instance *siccesco* means 'get dry gradually, be drying', and the prefixed *exsiccesco* indicates that the process is brought to its completion" (H189).
[38] "In the later centuries the difference between the non-terminative and terminative processes becomes blurred and also the dynamic and gradual semantic function of the *sco*-suffix is lost. In consequence we find *sco*-verbs like *furvesco* 'be dark' […] and *pulchresco* 'be beautiful' […] have a non-dynamic sense" (H189f).
[39] Interestingly, this semantic evolution is not just a bleaching in the sense of current grammaticalization theory: one meaning fades away, leaving behind another, more specific one, plus a meaningless use of the constituent.
[40] It. /sk/ is realized as /ʃʃ/ before /e/ and /i/. This can be expressed by a morphophonological rule, which we do not need to give here.
[41] "The […] process, forming SK verbs, broke down: the source forms, namely stative verbs, disappeared".
[42] To be precise, this is only one of the meanings of *maturare*. In earlier Latin, *maturare* was in contrast with *maturesco*: the basic meaning of *maturare* was causative ('to make ripe, to ripen, to bring to maturity', as opposed to *maturescere* 'to become ripe, ripen, to come to maturity'), but in post-classical Latin, *maturare* also meant 'to grow ripe, ripen' (Lewis & Short 1962 s.v. *maturo*, *maturesco*).
[43] The story of the French adjective-prefix *in-* is an example. Latin *in-* had originally been abandoned, but was re-introduced via pattern recognition and imitation; cf. Schwarze (2007).
[44] The only cases I know of are It. *capire* 'to understand' < *capere* 'to seize' and It. *tradire*, Fr. *trahir* 'to betray' < *tradere*. The other surviving sk-verbs go back to Latin verbs that belong to an older layer and are not derived by the rule given as (11) in section 5.1.1. Such verbs are It. *conoscere*, Fr. *connaître* 'to know', It. *crescere*, Fr. *croître* 'to grow', It. *nascere*, Fr. *naître* 'to be born', It. *pascere*, Fr. *paître* 'to graze'.

[45] According to Savoia (1997:83), some Central and Southern dialects have generalized -SK- "to all persons, and into other tenses" (Savoia 1997:83). Savoia gives the example of the dialect of Calaveto, where the forms of *addormirsi* (Standard It. *addormentarsi* 'to fall asleep) are /m addɔr'miʃʃu/ (Pres., 1st Sg), /n addɔrmiʃ'ʃimu/ (Present, 1st Pl), /v addɔr'miʃʃiti/ (Present, 2nd Pl), (m addɔrmiʃ'ʃiɛ/ (Imperfect Indicative), /m addɔrmiʃ'ʃissɛ/ (Imperfect Subjunctive). The presence of -SK- in the Imperfect Subjunctive seems to be due to a process similar to what happened in Spanish, where the Latin suffix amalgamated with the root and therefore also appears in those cells where it lacked in Latin.

[46] One of my anonymous reviewers drew my attention to this possible explanation.

[47] The question arises whether the ulterior paradigmatic spreading of -SK- in French is just an aspect of the progressive leveling of stem variation in that language. Most of the numerous Old French verbs that showed the Romance pattern of vowel variation lost it during the evolution from Old to Modern French; cf. OFr. *lief* 'I lift' – *levons* 'we lift', *truis* 'I find' – *trovons* 'we find', *pri* 'I beg' – *preions* 'we beg', as opposed to Modern Fr. *lève* – *levons*, *trouve* – *trouvons*, *prie* – *prions*. To answer this question, we need to have precise knowledge about the chronological relationship between the lexical spreading of -SK- and root vowel leveling in the evolution of French, and we would have to compare French and Italian with respect to the amount and the chronology of root leveling. The respective investigations must be left to further research.

[48] I owe this information to one of my anonymous reviewers. He makes reference in particular to the map 'guarire' and its paradigm in Cavaglià (Eastern Piedmont, AIS point 147), and also cites Maiden (2004:31 and 30 note 97) for Lombardia and Corsica.

[49] According to Italian dictionaries, *applaudire*, *assorbire*, *mentire* and *tossire* can be used with or without the -SK- stem extension: *mento* and *mentisco*, etc. Speakers, however, have clear preferences. One of my reviewers, obviously a native speaker, "garanties" that *applaudo*, *assorbo* and *mento* (without -SK-) and *tossisco* (with -SK-) are "overwhelmingly dominant".

[50] For a short overview, see Skårup (1994:126ff).

[51] For a small corpus study of -SK- in Old French, cf. Schwarze in press.

[52] As to Italian, some of the Latin verbs, which switched to the -i-class in French stayed in their original class, the third (*cogliere* 'to pick', *correre* 'to run') or the second Latin conjugation (*giacere* 'to be lying down', *piacere* 'to please'). But another small inflectional class grew out of some of the -i- and e-verbs, namely the class with so-called velar insertion (*salgo* 'I go up', *tolgo* 'I take way', *vengo* 'I come', etc.) Velar insertion was originally triggered by sound change, but then was established as an inflectional structure (see Pirrelli 2000:178-184).

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