Journal of Historical Syntax
Volume 5, Article 35: 1–52, 2021

REINVESTIGATING AMBIGUITY AND FREQUENCY IN REANALYSIS: A TWO-STEP METHODOLOGY FOR CORPUS-LINGUISTIC ANALYSES BASED ON BRIDGING USE EXPOSURE*

Esme Winter-Froemel
JMU Würzburg

Abstract The concept of reanalysis is widely recognized as a basic type of language change. However, given that the initial stage of processes of reanalysis is characterized by identical surface structures of the old and the new interpretation, basic methodological challenges arise for the identification of the innovation stage. Assuming that the notion of ambiguity and the relative frequencies of ambiguous and non-ambiguous uses play a crucial role, I propose a two-step methodology for diachronic corpus studies. The first task is to identify unambiguous switch uses, i.e. the first new uses which define the stage where the new structure has already been established. In a next step, a quantitative analysis of conventional uses and potentially ambiguous bridging uses can then be carried out in order to determine the strength of bridging use exposure (BUE) for the preceding period. Two case studies will illustrate the insights to be gained from such an approach which integrates fine-grained qualitative analyses of ambiguous and non-ambiguous uses in speaker-hearer interaction and quantitative investigations of the global frequencies of different types of uses in the speech community.

1 Introduction

Reanalysis is studied as a basic type of language change in different theoretical frameworks (see the position paper on reanalysis as well as Walkden and the other contributions in this issue). One of its uncontroversial core features

* Earlier versions of this paper were presented at the Workshop "Whither Reanalysis" (HU Berlin), the Oberseminar Romanistische Linguistik at the LMU Munich and at the LEL Research Seminars at the University of Manchester. I would like to thank an anonymous reviewer, Ricardo Bermúdez-Otero, David Denison, Hendrik De Smet, Ulrich Detges, Andreas Dufter, Klaus Grübl, Maj-Britt Mosegaard Hansen, Elizabeth Traugott, Richard Waltereit, Anne Wolfsgruber and all the participants for their extremely helpful and inspiring comments.

is the fact that, at least at a first stage, reanalysis remains covert at the surface level. This is clearly expressed by the classical definition of reanalysis as "change in the structure of an expression or class of expressions that does not involve any immediate or intrinsic modification of its surface manifestation" (Langacker 1977: 58). Yet, this feature implies a basic theoretical and methodological challenge that arises for any investigation of reanalysis: as the initial stage is represented by one and the same surface structure allowing for different interpretations – the conventional, and the new, reanalysed interpretation –, the question is how this initial stage can be identified. Not only are there no cues for the speakers, but the linguist (generally the diachronic corpus linguist) also lacks clear and unequivocal indicators of the initial reinterpretation of the expression. Instead, the initial stage needs to be reconstructed based on later uses which indicate that something has happened before.

This paper aims to discuss the possibilities for studying processes of reanalysis from a usage-based perspective, taking into account not only structural and social aspects of change, but also the level of the individual speakers.[1] In order to address this issue, I will first discuss the main stages of processes of reanalysis by strictly distinguishing between individual and social aspects (section 2). Based on the theoretical and terminological distinctions made, I will then present general reflections on the investigation of reanalysis as a hearer-based change (section 3). I will assume that the initial stage represents a situation of ambiguity, and that the concept of ambiguity thus plays a crucial role for the theoretical understanding of reanalysis. Based on these assumptions I will propose to (re)define reanalysis as a hearer-induced innovation in a scenario of potential semasiological and onomasiological ambiguity (section 4). This way of approaching reanalysis has methodological implications, which can be linked to the concepts of bridging contexts and switch contexts that have been proposed in the literature in order to tackle the basic challenge described above (section 5). I will show that these concepts implicitly combine two different types of criteria that should be clearly distinguished from each other, 1) compatibility and 2) degrees of novelty / conventionalisation of the interpretations involved. Moreover, I will argue that the focus needs to be shifted from ambiguous vs. non-ambiguous contexts to the ambiguous and non-ambiguous uses themselves. Assuming that occurrences of ambiguous and non-ambiguous uses as well as their relative frequencies can provide new insights into processes of reanalysis, I will propose a two-step methodology for diachronic corpus studies of reanalysis

1 For a partially similar orientation, see Petré & Van de Velde (2018), which aims to bring together qualitatively oriented research into innovation / individual language behaviour and quantitatively oriented research into propagation / communal language change in processes of grammaticalisation.

(section 6). The first task is to identify unambiguous occurrences of the new interpretation (new uses), as the earliest occurrences of these uses mark the beginning of the stage where the new structure has already been partly established or conventionalised. In a second step, a quantitative analysis of the relative frequencies of conventional uses and potentially ambiguous bridging uses can then be carried out for the preceding period, which includes the stages of innovation and (early) diffusion of the new interpretation. This approach will be illustrated by two case studies on reanalysis in French (section 7). The examples include the lexical change of French [*poule*] *d'Inde* > *dinde* and the development of *pendant* from the past participle of the verb *pendre* 'to hang' towards a temporal preposition. After a discussion of the main findings and follow-up questions for further research (section 8), a short conclusion will be given (section 9).

2 The level of the individual speakers and the level of the speech community in reanalysis

Before presenting general reflections on reanalysis, two preliminary remarks need to be made. Firstly, I understand reanalysis as a specific type of language change, characterised by the fact that the initial decisive step of the change is introduced by the hearer. In the research literature, reanalysis has also been interpreted as the hearer's ratification of a previously introduced innovation. The fundamental differences between the two concepts of reanalysis cannot be discussed in more detail here (see Waltereit 2018 and Detges et al., this issue). However, I would like to stress that the following reflections do not necessarily apply to reanalysis-as-ratification.

Secondly, according to the approach taken here, reanalysis is not restricted to morphosyntactic changes, but represents a general pattern of language change that may occur at different levels of the language system. It thus also includes cases of lexical change that do not exhibit features such as rebracketing, boundary loss, boundary shift or boundary creation.[2] For the sake of simplicity, the theoretical reflections of sections 3 to 5 will be based on an example of reanalysis in the lexicon. But I would like to argue that the key features of reanalysis that will be identified apply for reanalysis as a basic type of language change in general, regardless of the linguistic level(s) concerned (see also the case studies in section 7).

The term 'reanalysis' has been applied to different kinds of phenomena (see also Walkden, this issue). As mentioned above, it is understood as a basic

2 See also Langacker's (1977) category 'reformulation' with the subtypes semantic shift, semantic loss and semantic addition.

type of language change, representing a complex process that involves different subprocesses and stages. But 'reanalysis' can also refer to the initial act of reinterpretation, or to the spread of the new interpretation, which correspond to two different stages or subprocesses of change (innovation and diffusion). Various controversies and open questions in current research on reanalysis can be shown to arise from these three distinct uses (cf. the position paper on reanalysis by Detges et al., this issue).

Moreover, in order to clearly distinguish the relevant phenomena, it is helpful to differentiate between the level of the individual speakers and the level of the speech community, as the processes and subprocesses concerned can be approached from both perspectives. In Winter-Froemel (2008), it has been argued that we should clearly distinguish between the adoption of an innovation, which represents an individual act, and its diffusion at the level of the speech community, which is defined by a sum of individual speech events. At the level of the individual speakers, the focus is thus on individual usage events in discourse as well as on cognitive processes and mechanisms, whereas analyses directed to the level of the speech community focus on the language system and the social dimension of language. The latter approaches will typically investigate frequencies in corpus data.

The two perspectives can also be meaningfully applied to the stage where the novel use is introduced, and to the stage where the novel use has been fully established (see Figure 1). In the latter domain, the research focus has traditionally been on the social dimension of the success of an innovation, i.e. on conventionalisation. Recent (usage-based) approaches, however, have stressed the necessity of also taking into account the cognitive side, for which the term 'entrenchment' has been coined (Langacker 1987; Croft 2000: 236; Schmid 2007). The two different perspectives thus correspond to entrenchment, understood as a high and stable entrenchment of the new element in the individual speaker, and conventionalisation, understood as the final result of a process of conventionalisation, i.e. full conventionalisation of the new element in the speech community (on the distinction between entrenchment and conventionalisation, see also Waltereit 2009, Winter-Froemel 2013/2014, Schmid 2020).

For the first novel use of a certain expression or structure, we can also distinguish the two perspectives: whereas the "first novel use" at the level of the speech community would be its chronologically first occurrence ('evidence diverging from the existing convention'), it can be interpreted at the level of the individual speakers as the speaker introducing a particular use that s/he has not encountered before ('innovation').

	process of language change		
level of the individual speakers ⇒ individual usage events in discourse ⇒ cognitive processes and mechanisms in the individual speaker	innovation	adoption, routinisation	high and stable entrenchment
level of the speech community ⇒ language system ⇒ corpus data / frequencies	evidence diverging from existing convention	diffusion	full convention-alisation

Figure 1 Stages and subprocesses of language change at the level of the individual speakers and at the level of the speech community

By distinguishing between the two perspectives, more fine-grained analyses of the three stages of language change can be obtained. Concerning the first stage, we can say that the first diverging use at the level of the speech community will necessarily correspond to an innovation, but in addition to that, we can allow for further parallel and mutually independent "first" innovations at the level of the individual speakers, i.e. several speakers "inventing" an innovation without having knowledge of other previous or parallel uses of the new element in the speech community (cf. the notion of polygenesis). This is due to the fact that diffusion does not represent a uniform and continuous spread across the speech community that directly reaches all of its members, but is determined by the structures of social networks within the speech community and by communicative networks.[3]

The final stage is defined by the novel use having become fully established. For both the cognitive and the social perspective (entrenchment / conventionalisation), theoretical and methodological questions arise when

3 See also the notion of discourse traditions shared and formed by subgroups of speakers (Koch 1997, Blank 1997: 116–130) as well as the research carried out by Petré & Van de Velde (2018).

Moreover, it need not even be the case that chronologically parallel innovations arise in the same kinds of scenarios. Winter-Froemel (2014) shows that for the change of French impersonal *on* 'one' from an indefinite to a 1st person plural pronoun 'we', corpus data suggests different innovation scenarios, namely hearer-based reanalysis and speaker-induced indirectness. In spite of the strong differences in the pragmatic settings observed in both scenarios, these scenarios do not necessarily contradict each other, but may have contributed together to promote the change of the pronoun in 16th and 17th century French.

we try to evaluate whether this stage has been reached for a particular new use (cf. Winter-Froemel 2011: 140–147, Winter-Froemel 2013/2014: 124–125). In corpus linguistic approaches, entrenchment cannot be directly accessed, but needs to be inferred from frequency of usage. But when interpreting the corpus data as representing "the language" of the relevant period in the speakers' minds, it needs to be acknowledged that this represents an interpretation which necessarily hinges on the limitations of the corpus data available (see also Denison 2017: 292), and the data cannot be taken to fully reflect the psycholinguistic reality of entrenchment. Moreover, it needs to be discussed whether entrenchment should be best understood and evaluated in terms of exposure (the speaker being confronted with a certain expression) or active use, and in the latter case, if regular reuse is required.

For innovations introduced as alternative ways of expressing a certain concept, we may say that the final stage is reached when the older, original expression has been completely replaced by the new expression, which can be evaluated by measuring the relative frequencies of both expressions. However, such comparisons cannot be carried out for innovations that are introduced to express new lexical or grammatical concepts. Moreover, in many cases, no replacement takes place, and the original use can remain a valid option even if the novel use has already become fully conventionalised as well (see e.g. Hopper 1991 on 'layering'). And even if the older item is no longer actively used, the older uses can still persist in the speech community to a certain extent by being conserved in written documents, citational reuses etc.

In addition to that, usage-based approaches have stressed the dynamic nature of language, and thus highlighted that the final stage cannot be interpreted as a stable state, as it is potentially subject to further change.

The middle stage, finally, represents the period between the other two stages. It is characterised by an increasing diffusion of the novel use in the speech community, which arises from a series of adoptions of the innovation by individual speakers in the speech community. The term 'routinisation' is added in the upper part of Figure 1 in order to stress the fact that during the global process of diffusion, the use of the novel item also gets increasingly routinised in the individual speakers.

As will be explained in the following section, I assume that it is at the innovation stage that key features distinguishing reanalysis from other basic types of change can be observed. In order to avoid terminological misunderstandings, I will only use the term 'reanalysis' to refer to the global process of change as a whole. The initial, hearer-driven step representing the innovation of a (potential) process of reanalysis, in contrast, will be referred to as 'neoanalysis' (Andersen 2001, Traugott & Trousdale 2010, Petré & Van de

Velde 2018) in the remainder of this paper.[4] As we will see, the crucial feature here is the fact that the hearer interprets the expression based on its concrete usage, thereby obtaining an interpretation which diverges from the conventional meaning or structure of the expression. In this sense, the initial neo-analysis is seen as an abrupt step, whereas the diffusion and routinisation of the new interpretation represent gradual processes at a later stage.

3 Investigating reanalysis as a hearer-based change

This section aims to argue that the hearer-based nature of reanalysis (see e.g. Detges & Waltereit 2002) has far-reaching theoretical and methodological implications. These make reanalysis a basic type of language change that is fundamentally different from other, speaker-based changes. To illustrate this point, the recent reanalysis of the English word *people* that has occurred when the item was borrowed into French serves as a good example. The citation in (1) clearly shows that a semantic change has taken place in which the French word has acquired a more specific meaning. It is used as a singular noun in order to refer to an individual person, more specifically, a CELEBRITY.

(1) Nous poserons, au départ, la question de savoir quels sont les critères pour devenir un **people** et le rester.

'We will start by raising the question which are the criteria for becoming a celebrity and remaining it.'

(Virginie Spies, 2008. Du bonheur de devenir un people, et de le rester. In Virginie Spies, *Télévision, presse people: les marchands de bonheur*. Bruxelles: De Boeck Supérieur, 133–152, emphasis and translation EWF).

This is also confirmed by example (2), where the expression *célébrité* is used

4 Hansen (this issue) proposes a different (re)definition of 'neo-analysis' and 're-analysis' as two subtypes of reanalysis based on the criterion of "whether or not the hearer's mental grammar already includes an existing analysis of the construction which is reanalyzed". I fully agree that reanalysis (in a broad sense) includes both cases where the hearer already has a previous mental representation of the linguistic items involved and cases where s/he has not (see e.g. reanalysis in creolisation). Yet, in my view the relation between these two scenarios requires further discussion: can we stipulate two distinct subcategories and a clear-cut boundary between them, or should we rather assume a continuum of different degrees of the previous 'existence' of the linguistic item or construction in the hearers' mind, as suggested by the inherently gradual notion of entrenchment? Moreover, further research is required to determine to what extent the hearer's (partial) previous knowledge of a certain expression or construction can be operationalised in corpus-linguistic research in a methodologically sound way.

as a (near-)synonym in the immediate linguistic context:[5]

(2) En favorisant, voire en cultivant leur peopolisation, les hommes et les femmes politiques attendent des bénéfices en termes d'image: paraître plus proches, plus populaires, plus séduisants et plus modernes. Mais du même coup, ils se soumettent aux mêmes lois que les **célébrités** traditionnelles. Or, devenir un **people** n'a pas que des avantages.

'By encouraging, even by cultivating their peopolisation [becoming celebrities], male and female politicians expect benefits in terms of their image: to appear closer [to the public], more popular, more seducing and more modern. But at the same time, they also submit to the same laws as traditional celebrities. Yet becoming a celebrity does not only have advantages.'

(Jamil Dakhlia, 2007, *People* et politique: un mariage contre nature? Critères et enjeux de la peopolisation. *Questions de communication*, 12/2007: *Crises rhétoriques, crises démocratiques*, 259–278. https://doi.org/10.4000/questionsdecommunication.2417, § 24, emphasis and translation EWF)

I have argued that this lexical change can be categorised as a case of reanalysis that has occurred in the situation of borrowing proper, when the item was introduced into French (cf. Winter-Froemel 2011). Uses such as the ones in (1) and (2) show a clearly divergent structure and semantics compared to the use of *people* in English, and this divergence can be explained by assuming a previous and covert neoanalysis of the item in particular contact situations. More specifically, as the expression is frequently used as an (invariable) plural noun with a collective interpretation in French, it can be assumed that the neoanalysis occurred in contexts where the English expression refers to a group of celebrities. The singular uses of *people* in French designating an individual person then illustrate a further innovative use. It has been argued in Winter-Froemel (2011) that the American magazine *People*, which is widely diffused at an international level, has played an important role for this change. The importance of journalistic contexts, in particular references to the celebrity press (French *la presse people*), is also confirmed by the definition of people given in (3):

5 The derivation *peopolisation* which also appears in the citation represents a further innovation based on the lexical borrowing of *people* into French. This innovation represents a speaker-driven word formation and will not be commented on further here.

(3) [...] un **people** est une personne connue dont on dévoile la vie privée dans les magazines dits people (définition au sens large) [...]

'a *people* [celebrity] is a well-known person whose private life is disclosed in the so-called people magazines (defined in the wide sense)'

(Virginie Spies, 2008. Du bonheur de devenir un people, et de le rester, emphasis and translation EWF)

The process of reanalysis can thus be summarised as indicated in (4).

(4) E. *people*$_{\text{Pl}}$ PEOPLE → F. *people*$_{\text{Pl}}$ CELEBRITIES (→ *people*$_{\text{Sg}}$ CELEBRITY, FAMOUS PERSON)

The expression has widely diffused in the French community and is nowadays also registered in standard dictionaries of the French language (see also the uses in (1) and (2) extracted from academic texts). It is worth mentioning that other usage-based interpretations of *people* can also be observed, but have not been conventionalised in the French speech community, see e.g. (5), where the item refers to a magazine belonging to the "presse people" / "journaux people", and is thus interpreted in the sense of 'celebrity magazine'.[6]

(5) "C'est un **people** générationnel qui s'adresse aux 15-35 ans, surtout des femmes, lu dans tous les milieux socio-professionnels", explique Bruno Lesouef [...].

' "It is a *people* [celebrity magazine] addressed to the generation of 15–35-year-old readers, especially women, and read in all socio-professional environments", Bruno Lesouef explains [...].'

(Pascale Santi, Les ventes de la presse people en forte hausse cet été, 03/09/2007, Le Monde, Médias, https://www.lemonde.fr/actualite-medias/article/2007/09/03/les-ventes-de-la-presse-people-en-forte-hausse-cet-ete_950654_3236.html, last accessed 15.07.2020)

For the neoanalyses of *people*$_{\text{Pl}}$, the innovation stage itself is in principle not directly identifiable, and this implies a basic methodological challenge that necessarily arises for investigations of processes of reanalysis in general. This becomes clear if we compare the hearer-driven neoanalyses and reanalyses to speaker-driven innovation and change.

6 Alternatively, this lexical innovation could also be explained as an ellipsis that has occurred after the item was borrowed into French (*journal people* → *people* 'celebrity magazine').

The latter can be illustrated by the metaphorical use of French *accoucher* (*de*), originally describing the process of GIVING BIRTH, which can also be used to describe a process of PRODUCING STH. WITH EFFORT OR PAIN, as in *accoucher d'un roman* (literally, 'give birth to a novel'). The new meaning is nowadays conventionalised and registered in standard dictionaries of French. If we go back to the (hypothetical) innovation stage, the innovation represents speaker S_1's first use of the verb without an explicit or implicit animate indirect object as required by the source meaning of *accoucher* (*de*) (e.g. BABY, CHILD, DAUGHTER, SON). Instead, the slot of the indirect object is occupied by an inanimate artefact (e.g. a NOVEL). At the innovation stage, the violation of the semantic restrictions forces the hearer H_1 to choose a non-literal interpretation of *accoucher* (*de*). If the hearer then adopts the novel interpretation in his/her further usage, this reuse can contribute to the diffusion of the innovation, forcing the next hearer H_2 to reinterpret the expression in a non-literal way as well in order to avoid a semantic clash. Both innovation and adoption are thus directly observable as diverging from the existing convention here, and the initial steps of speaker-driven innovation and change can be described as shown in Figure 2 (see also Winter-Froemel 2012: 158).

$$\boxed{S_1} \longrightarrow H_1 = S_2 \longrightarrow H_2 = S_3 \longrightarrow \cdots$$

innovation adoption and reuse

Figure 2 Speaker-driven innovation

For cases of hearer-driven innovation and change, the situation is different (Figure 3, see also Winter-Froemel 2012: 159). As we have seen, the initial step in the linguistic change of *people* is an act of neoanalysis. We can assume that an English speaker S_1 uses the expression in its literal meaning, but in a context where the expression mainly refers to FAMOUS PEOPLE / CELEBRITIES and where this latter interpretation is highly salient (as given in the context of celebrity journalism, e.g. in the presentation of the U.S. magazine *People*, "This magazine is about people."[7]). The decisive step of innovation is thus the French hearer H_1's neoanalysis of the expression in the more specific meaning. The new interpretation diverging from the original meaning in English

7 Cf. the following characterisation of the magazine: "Says Managing Editor Richard Stolley: 'We're getting back to the people who are causing the news and who are caught up in it, or deserve to be in it. Our focus is on people, not issues.'" (http://content.time.com/time/magazine/article/0,9171,944778,00.html, 03.09.2020).

can then become actualised when H_1 assumes the role of a speaker S_2 and uses the expression her/himself.[8]

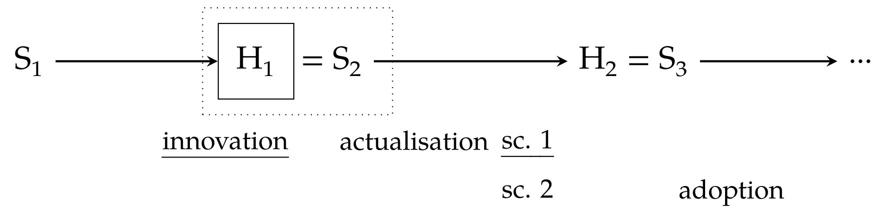


Figure 3 Hearer-driven innovation (ambiguous scenarios are underlined)

Yet, two different scenarios regarding the actualisation of the newly interpreted expression need to be distinguished: if H_1/S_2 uses the expression in a context which is compatible with both the old and the new interpretation – e.g. in expressions like "les people du show-biz" 'the people / celebrities from show-biz' –, the previous innovation is still not observable (at least, not in corpus linguistic analyses, scenario 1). This means that the next hearer and speaker H_2/S_3 can stay with (or go back to) the old interpretation, or innovate, i.e. choose him/herself a new interpretation of the expression which diverges from the existing convention. This scenario is thus characterised by an ambiguity between the old and the new interpretation, which are both possible in the concrete usage context.

Yet S_2 may also actualise the newly interpreted expression in a context where its use is incompatible with the old interpretation, as given in utterances like "ils sont devenus des people" 'they have become celebrities' (scenario 2). There is no longer an ambiguity here, as the expression needs to be interpreted in the new meaning (STAR, CELEBRITY). In this scenario, the previous neoanalysis becomes manifest as there is a divergence with respect to the conventional (English) meaning of *people*. In a next step, the new use can then be adopted by other hearers and speakers, and the innovation can diffuse in the speech community.

This means that in contrast to scenarios of speaker-driven innovation, the hearer-driven innovation itself cannot be directly observed, and it is only in specific scenarios of actualisation of the newly interpreted expression that a divergence with respect to the existing convention is directly observable.

8 In contrast to Hansen (this issue), actualisation is thus interpreted here as an individual event at discourse level. This allows us to make a categorial distinction between individual discourse-level phenomena (innovation, adoption, actualisation) and social phenomena (diffusion) (see also Walkden's distinction between the level of the individual and the population level, this issue).

Corpus-linguistic investigations of reanalysis will thus need to include both ambiguous and non-ambiguous uses after the initial stage of innovation (neoanalysis). Moreover, the notion of ambiguity appears to play a key role for both innovation (where there is an ambiguity between the old and the new interpretation) and actualisation (where ambiguous and unambiguous scenarios need to be distinguished).

It should be stressed that in the previous descriptions, actualisation has been defined in a general sense, i.e. as an actualisation of the relevant linguistic unit in discourse. Other approaches, in contrast, assume that actualisation is necessarily characterised by an overtly new behaviour of the relevant unit that has been reanalysed (see e.g. Timberlake 1977; De Smet 2009, 2012: 601; De Smet & Markey, this issue). The narrower definition of 'actualisation' adopted in these approaches would thus only correspond to the second, unambiguous scenarios of actualisation. It is undeniable that the latter scenarios play a crucial role in processes of reanalysis, as will also be argued for in more detail in the following sections. Yet, in my view, the fact that there are also further, ambiguous scenarios of actualisation in reanalysis needs to be acknowledged. At least to my knowledge, the theoretical relevance of ambiguous actualisations has not yet been discussed up to now, and in this respect, the description given in Figure 3 also involves a refinement of theoretical models of reanalysis.

4 Reanalysis and ambiguity

In the previous section I have argued that scenarios of ambiguity play a key role for reanalysis as a hearer-induced change. This assumption can be seen as being highly controversial though, as the importance of ambiguity for reanalysis has been intensely discussed in recent research. For example, De Smet holds that "the assumption that reanalysis works through ambiguity is logically flawed" (De Smet 2009: Abstract). More specifically, he recognises that ambiguities can arise in reanalysis, but points out that ambiguity does not act as a trigger of reanalysis, but only represents a possible consequence thereof. He speaks of

> "an ambiguity that strictly speaking exists only in retrospect – that is, after the change has taken place [...]. Put differently, the ambiguities that are supposed to motivate reanalysis are really the result of reanalysis, as they can only arise if the target structure of reanalysis already exists." (De Smet 2009: 1729)

In the descriptions of the initial stage of reanalysis provided by Detges & Waltereit, in contrast, the notion of ambiguity is central. This can be illustrated by the following citation, which I interpret as describing a situation of ambiguity:

> "[...] two competing semantic analyses are alternative interpretations in the utterance situation. Reanalysis enables two superficially identical, but semantically different, strings to refer to the same state of affairs. In other words, the semantic relation of the two structures must be such that they can have the same referent in a large number of cases, i.e., that their extensions overlap." (Detges & Waltereit 2002: 168[9], see also Haspelmath 1998)

In order to bring these seemingly contradictory positions together, I would like to argue that it is crucial to distinguish between two different concepts of ambiguity underlying these approaches. Linguistic approaches in the tradition of truth-conditional semantics generally define ambiguity as a coexistence of clearly distinct, conventional meanings of a certain expression, the difference between the interpretations being truth-conditionally relevant, i.e. the interpretations being incompatible. According to this definition of ambiguity, De Smet's analysis fully applies to reanalysis: for example, in the reanalysis of *people*, there is no initial ambiguity of the expression in the English language system, as there is only the conventionalised meaning PEOPLE.[10] Moreover, ambiguity may arise as a consequence of the diffusion of the new interpretation. The new French meaning has become increasingly conventionalised and entrenched alongside the original English meaning of *people*, which can be assumed to be known by many speakers of the French speech community. In this sense, speakers of French will possibly be confronted with the ambiguity between the original English and the new French meaning as a consequence of the reanalysis that has occurred.

In other approaches and frameworks, broader definitions of ambiguity have been proposed. In historical linguistics, the concept of invited inferencing has been linked to pragmatic ambiguity (see Traugott 2012b: 224 and the references cited there), but this latter notion has not been comprehensively elaborated on a theoretical level (for a first proposal, see Winter-Froemel 2019b). In interdisciplinary research projects, situations of ambiguity across different disciplines have been analysed and compared, including not only

9 But see also their suggestion that "[s]tructures that have undergone reanalysis are certainly syntactically ambiguous, but only as a natural result of, not as a prerequisite to reanalysis"(Detges & Waltereit 2002: 170), which seems to come very close to De Smet's position.

10 Further meanings of *people* in English are not directly relevant to the reanalysis that has occurred in French, and are therefore not commented on here.

linguistic ambiguities but also ambiguities in other semiotic codes and ambiguities occurring in a broad range of usage contexts (see e.g. Bauer, Knape, Koch & Winkler 2010, Winter-Froemel 2013, 2019a, Winter-Froemel & Zirker 2015). In this context, it has been argued that a broader approach to ambiguity permits us to gain a better understanding of ambiguity, especially by integrating pragmatic perspectives into investigations of ambiguity and by linking linguistic descriptions of innovation and creativity to ambiguity in other domains.

According to the broader approach, which I adopt in this paper, ambiguity represents a coexistence of clearly distinct interpretations in a communicative situation. Following this definition, an utterance like "This is a magazine about people" is potentially ambiguous, allowing for different interpretations (e.g. PEOPLE / CELEBRITIES). This potential can become active, i.e. the ambiguity can become actualised, in situations where a hearer is confronted with the expression and chooses an interpretation that does not correspond to the conventional English meaning of PEOPLE, but chooses the more specific interpretation instead.

This broader concept of ambiguity thus includes interpretations that are compatible in the concrete utterance context (e.g. PEOPLE / CELEBRITIES in our example) and that have not (yet) been conventionalised (as it is the case for CELEBRITIES at the initial stage of this process of lexical change of French *people*). Moreover, it includes cases where neither the speaker nor the hearer perceives an ambiguity, as in the potential innovation scenario where the English speaker who says "This magazine is about people" has the conventional interpretation, and the French hearer interprets the expression as standing for CELEBRITIES, but without there being any communicative problems or misunderstanding in the traditional sense – S and H will assume that the transmission of information has been entirely successful and, in spite of their different conceptualisations, they will identify the same communicative referent.

It needs to be stressed that the broad definition of ambiguity is radically different from the classical, narrow definition outlined above, which still prevails in many linguistic descriptions in the tradition of truth-conditional semantics. In previous approaches, even if a wider approach to ambiguity is adopted and cases of pragmatic ambiguity are subsumed under this notion as well, other scenarios in which several clearly distinct interpretations potentially coexist are not necessarily considered as being ambiguous (e.g. referring to Diewald's 2002 paper, Traugott distinguishes between scenarios of pragmatic or structural ambiguity on the one hand, and "(o)pacities that invite several alternative interpretations" on the other hand, Traugott 2012a: 234).

For terminological clarification, it is useful to briefly discuss how ambiguity can be distinguished from other notions that have been used in previous research to refer to situations where different interpretations of a certain linguistic item or structure are involved. Whereas ambiguity is generally defined by the fact that there are several clearly distinct interpretations for a certain expression (e.g. English *mouse* MOUSE / COMPUTER MOUSE), the notion of vagueness is generally assumed to be characterised by a continuum of possible interpretations without sharp boundaries (e.g. for concepts such as TALL), which leads to borderline cases and specific behaviour of vague expressions as illustrated by the Sorites paradox (Pinkal 1991, Kennedy 2011, Winter-Froemel 2013).[11] The examples of reanalyses that are discussed in this paper (as well as in the other papers of this issue, as far as I can see) all represent cases of ambiguity in the sense indicated here.

In addition, the notions of underspecification, underdetermination and indeterminacy also need to be mentioned in this context. These notions highlight the fact that due to their abstract meaning, linguistic expressions can be used to refer to different referents in discourse, or, in other words, they can allow for different interpretations in a concrete situation of communication. While this feature holds for all linguistic expressions (due to their belonging to an abstract code), the notion of ambiguity serves to operationalise this general observation: We can assume a situation of ambiguity as soon as several clearly distinct interpretations of a certain expression become relevant in a concrete situation of communication, e.g. if the speaker and hearer are faced with several referents to which the underspecified expression could potentially refer, so that the abstract meaning potential becomes manifest in two (or more) concrete interpretations (see also Munderich & Schole 2019). In other words, while underspecification describes a general feature of linguistic expressions, we need the notion of ambiguity in order to analyse the concrete interpretations and the relations between them that become relevant in concrete scenarios of communication.

The notion of opacity, in turn, can be defined as the absence of semantic and morphological transparency or motivatability, i.e. opaque expressions are expressions for which the speakers perceive no morphological or semantic relations to other items in the language system (e.g. English *cucumber* can be assumed to be opaque). In this sense, opacity as such is not directly linked to

11 A different approach can be found in Denison (2017). In his view, "(w)hat differentiates ambiguity from vagueness is whether or not SP/W could have made a choice, and furthermore, whether such a choice would have mattered" (Denison 2017: 293). This redefinition of vagueness comes close to what has also been described as indeterminacy. While I fully agree with the emphasis Denison puts on the compatibility or pragmatic equivalence of the interpretations involved, I will retain the traditional definition of vagueness.

ambiguity.[12]

As I adopt a broad definition of ambiguity, the basic assumption about the key role of ambiguity in scenarios of neoanalysis that will be presented in the following paragraphs does not necessarily contradict previous studies in which ambiguity (in a narrower sense) was not found to be relevant for processes of grammaticalisation or reanalysis. At the same time, the broad definition ties in with approaches to ambiguity in e.g. literary studies, rhetoric, the history of art, religious studies, etc., where the focus is typically on individual texts and individual usage. In the domain of linguistics, it implies most importantly a fundamental role of ambiguity for the study of language in general, as it assumes a pervasiveness of (potential) ambiguity which is inherently linked to language dynamics and change.

Following this approach, scenarios of neoanalysis can be shown to represent a specific ambiguity phenomenon. Whereas "classical" ambiguities are typically characterised by a certain expression having two incompatible interpretations in the concrete utterance context, as illustrated by (6), scenarios of neoanalysis (7) are characterised by the compatibility of interpretations (i.e. both interpretation 1 and interpretation 2 correctly identify the relevant referent intended by the speaker).[13] Scenarios of neoanalysis thus exhibit not only a semasiological ambiguity, i.e. an ambiguity that occurs in the relation between an expression and its interpretations ("people" being interpreted as PEOPLE and CELEBRITIES by S and H, respectively), but also an onomasiological ambiguity concerning the relation between a referent and its conceptualisations as well as the linguistic expressions related to these conceptualisations (the persons treated in the magazine being conceptualised as PEOPLE and CELEBRITIES by S and H).[14] As a consequence of the diverging conceptualisation chosen by H, a new, different lexical unit is introduced (lexical unit$_2$ *people* 'celebrities' alongside lexical unit$_1$ *people* 'people'; a lexical unit is understood here as a form-meaning pair, see Cruse 1986: 49).

12 But for cases of non-opacity where one and the same expression has different meanings which are semantically related to each other, as illustrated by English *mouse*, both (semantic) transparency and (lexical) ambiguity / polysemy can be observed.

13 It should be stressed that the decisive point here is that the referent is accessed by both the speaker and the hearer in a sufficiently concordant way, which does not necessarily imply that their representations of the referent are objectively "correct" and coincide in a truth-conditional sense (cf. also the example of a speaker and hearer successfully communicating about a particular "man over there drinking champaign", which might be a sufficient description to identify the intended referent, even if the liquid in the glass is sparkling water).

14 On semasiological and onomasiological ambiguity, see also Winter-Froemel & Zirker (2015).

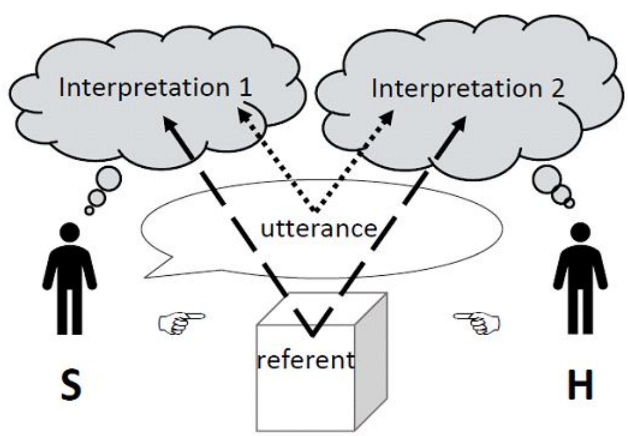
(6) Incompatible interpretations: *quite* 'completely' / 'to a certain extent':
When you say "She's quite right", do you mean "She's completely right" or "To a considerable extent, she's right"?
(example adapted from an online discussion forum on the English language, 07/2020)

(7) Compatible interpretations: *people* 'people' / 'celebrities':
This magazine is about people.

Based on the broad approach to ambiguity, processes of reanalysis can thus be described as arising from a situation of neoanalysis (see Figure 4), and this latter concept can be defined as follows:

> **Neoanalysis**: a hearer-driven innovation in a scenario of (potential) semasiological and onomasiological ambiguity

The initial step in reanalysis is thus an abrupt event, with the hearer playing the key role, being responsible for the introduction of interpretation 2 and the activation of the potential ambiguity in the concrete situation of communicative exchange.



semasiological ambiguity (dotted arrows): 1 utterance with 2 different interpretations

onomasiological ambiguity (dashed arrows): 1 referent with 2 different interpretations / conceptualisations (and different linguistic expressions for these interpretations)

Figure 4 Semasiological and onomasiological ambiguity in neoanalysis

From a methodological perspective it needs to be stressed that this scenario of semasiological and onomasiological ambiguity is not directly observable in corpus data, as it is based on assumptions about cognitive processes in the speaker and hearer. Still, uses as the one in (7) can be interpreted as potentially ambiguous uses which correspond to possible innovation scenarios.

This means that the innovation scenarios are necessarily reconstructed and hypothetical. The consequences of these reflections will be discussed in more detail in the following sections, where a two-step methodology for corpus-linguistic studies of reanalysis will be developed.

Regardless of the methodological challenges that need to be tackled, the previous reflections have shown that from a theoretical point of view, processes of reanalysis represent a particular subtype of language change, characterised by particular semiotic conditions at the innovation stage, as indicated in the definition of neoanalysis proposed above. According to the approach proposed in this paper, reanalysis should thus be considered to be a special subtype of language change arising from hearer-based innovation in scenarios of neoanalysis that combine (potential) semasiological and onomasiological ambiguity.

5 Bridging contexts, switch contexts and the stage of overlap in processes of change

In order to implement the theoretical reflections of the preceding sections into corpus-linguistic investigations of reanalysis, the notion of bridging contexts provides a good starting-point. This notion is defined by Evans and Wilkins as follows:

> "It has become a standard assumption that semantic change from meaning A to B normally involves a transitional phase of polysemy where a form has both meanings [...]. Less often articulated is that this phase of polysemy (what Heine calls the stage of overlap) is typically preceded by a phase where meaning B is only contextually implicated but not yet lexicalized as a distinct sense (cf. Traugott 1989). That is to say, meaning B often comes into existence because a regularly occurring context supports an inference-driven contextual enrichment of A to B. In these contexts, which we term BRIDGING CONTEXTS, speech participants do not detect any problem of different assignments of meaning to the form because both speaker and addressee interpretations of the utterance in context are functionally equivalent, even if the relative contributions of lexical content and pragmatic enrichment differ. Subsequently this contextual sense may become lexicalized to the point where it need no longer be supported by a given context." (Evans & Wilkins 2000: 549–550)

What can be extracted from this approach is that processes of semantic change can be described at two different levels. The stage of polysemy or the stage of overlap, where the old meaning A and the new meaning B coexist, describes the situation at the level of the language system, where both meanings are conventionalised. In addition to this level, Evans and Wilkins point out the importance of also taking into account the relevant phenomena at the level of discourse, where the new interpretations are introduced. There is thus a preceding stage where only meaning A is conventional, but where new interpretations can be introduced in specific contexts of use, labelled 'bridging contexts'.

These reflections have been continued in grammaticalisation research, where other approaches have investigated further types of contexts that are relevant to the diffusion and conventionalisation of the new interpretation. In addition to bridging contexts, where the new meanings are triggered by an inferential mechanism, but are still cancellable, Heine (2002: 84–85) introduces the notion of switch contexts. These are seen as being incompatible with the old meaning (or "some salient property of the source meaning", Heine 2002: 85), so that the new interpretation represents the only possible interpretation. This interpretation, however, is not yet fully conventional, i.e. it still needs to "be supported by a specific context (or cluster of contexts)" (Heine 2002: 85). Moreover, Heine speaks of conventionalisation contexts, which are characterised by the fact that the new meanings have been fully conventionalised. The distinction between the latter two types of contexts is thus based on the progress of the change at the level of the speech community.

Diewald (2002), in contrast, proposes to distinguish between untypical contexts, critical contexts and isolating contexts.[15] The latter provide clear cues if the old or the new meaning is preferred, as in the case of Heine's switch contexts. For the preceding period, Diewald distinguishes between an "unspecific expansion" (Diewald 2002: 103) of the lexical unit to new contexts in which the expression had not been used before and in which the new interpretation can arise as a conversational implicature (untypical contexts), and critical contexts in which structural and semantic ambiguities accumulate towards the new interpretation (Diewald 2002: 106). As these descriptions show, the distinction between untypical contexts and critical contexts hinges on the pragmatic cancellability vs. conventional status of the new interpretation. Moreover, Diewald's primary focus is not on individual usage contexts, but on the distribution of different context types in diachronic processes of change. This is confirmed by the fact that she assumes that there can

15 For a comparison of Heine's and Diewald's approach, see also Eckardt (2006) and Traugott (2012b).

be contextual disambiguation for instances of the critical context (Diewald 2002: 111). In this sense, uses in critical contexts cannot be assumed to be generally ambiguous. The perspective adopted by Diewald thus primarily focuses on the level of the speech community and the sum of speech events at different stages of language change.

When studying concrete changes in corpus data, however, I would like to argue that we should first focus on the level of the individual usage events. At this level, it is not "only context" that is relevant, and it is inaccurate to describe the diachronic processes as one and the same expression being subsequently used in the different types of contexts.[16] At the level of the language system, at the initial stage we have a unit X, i.e. the relevant expression has the meaning A. After the conventionalisation of the new meaning B, however, a new unit Y has been added to the language system, as the expression has acquired meaning B. This means that at the stage of polysemy, both units X and Y already coexist. The question at what point the new unit Y has come into existence as a new part of the language system, i.e. at what point the originally pragmatic interpretation has been conventionalised and become a lexical meaning B, in my view is an open one that requires further discussion. But in any case, we can assume that at some stage in the process of diffusion certain speakers will already have the new unit Y, while others still might only have the unit X.

In addition to that, it can be shown that Heine's and Diewald's categorisations of context types implicitly combine two groups of criteria that I would like to distinguish here. On the one hand, the categories are based on semantic aspects, i.e. the possibility and plausibility of the old and the new interpretation in the concrete usage context. On the other hand, the definitions of the context types are based on different degrees of conventionalisation of the new interpretation and on the pragmatic vs. semantic status of the interpretations: if the interpretations are described as representing cancellable conversational implicatures, this means that they are not yet conventional implicatures or part of the lexical meaning.

From a methodological perspective, the problem is, however, that conventionalisation and the semantic vs. pragmatic status of a certain interpretation cannot be directly observed in corpus data. Psycholinguistic research could provide information on different degrees of entrenchment for ongoing changes, if the interpretations can be shown to differ with respect to their

16 It seems interesting to mention here that Traugott (2012b: 225) observes a "profile-shift from locating the potential for change in the expression to locating it in its changing context" in Heine, Claudi & Hünnemeyer (1991). The present paper argues for a shift back again to the expressions themselves in order to account for the fact that the expressions themselves are directly affected by the different usage contexts.

accessibility. However, at least to my knowledge, this has not been empirically tested up to now. Moreover, similar information is not available for diachronic changes, where degrees of conventionalisation need to be inferred from frequencies and first occurrences in corpus data and lexicographic documentation.

Following the argumentation developed in sections 3 and 4 and in the previous paragraphs, I will distinguish between three basic context types for the purposes of approaching reanalysis from the level of the individual speakers and communication events. These context types are 1) unambiguous contexts in which the new interpretation is not possible, 2) contexts that are marked by an ambiguity between the old and the new interpretation, and 3) contexts in which there is no longer an ambiguity, as the old meaning is ruled out (see also Marchello-Nizia 2006: 260–261).

Moreover, focusing on the uses of the expressions themselves, I would like to propose a distinction between three different types of use that are relevant to diachronic studies of processes of reanalysis:

- conventional uses / **CUs**, i.e. unambiguous uses where only the old interpretation A is possible,
- bridging uses / **BUs**, i.e. potentially ambiguous uses where both interpretations A and B are possible, and
- new uses / **NUs**, i.e. unambiguous uses for which only the new interpretation B is possible.

As the definitions show, the distinction of these categories is only based on semantic criteria, and it does not distinguish between conventional meanings and context-dependent pragmatic interpretations. Whereas conventional uses clearly correspond to the "old" unit X with the meaning A, the bridging uses can represent instantiations of either unit X (with a pragmatically licenced interpretation B) or instantiations of a polysemous expression corresponding to the lexical units X and Y (the latter having the conventionalised new meaning B).[17] Similarly, for the new uses, the new interpretation can have either prag-

17 No assumptions are made about the conventional or the new interpretation being foregrounded in bridging uses. This latter question represents of course an aspect of key importance which will be addressed below with respect to the (relative) salience of the interpretations, but which will only be briefly discussed in this paper for reasons of space. The notion of bridging uses is thus exclusively defined by the fact that they are in principle compatible with the old and the new interpretation.

As a further terminological remark, it should be added that in the course of language change, the new meaning and the new unit Y become conventionalised as well. In this sense, at a certain moment in the process of language change, the uses that are labelled as "new uses" matic or semantic status. If we integrate the chronological perspective, we can add a further category, which represents a subgroup of new uses marked by their early occurrence:

- switch uses / **SUs**, i.e. (very) early uses in which only the new interpretation is possible.

Based on these distinctions, the key scenarios in which hearer-driven innovations are actualised can be characterised as bridging uses and switch uses / early new uses, as illustrated by examples (8) and (9), respectively (see Figure 5).

(8) Bridging use: "les people du show-biz" – interpretation 1: 'the people from show-biz' / interpretation 2: 'the celebrities from show-biz'

(9) Switch use / early new use: "ils sont devenus des people" – 'they have become celebrities'

$$S_1 \longrightarrow \boxed{H_1} = S_2 \longrightarrow H_2 = S_3 \longrightarrow \cdots$$

$\underline{\text{innovation}}$ actualisation $\underline{\text{sc. 1}}$ $\underline{\textit{bridging use}}$

sc. 2 *switch use*

Figure 5 Bridging uses and switch uses in hearer-driven innovation (ambiguous scenarios are underlined)

The different types of uses will chronologically overlap and may occur at different stages of language change. For instance, bridging uses may exist for a long time without triggering reanalysis. Still, it appears useful to heuristically distinguish between different main stages of language change, and it can be assumed that these stages are characterised by shifts in the distributions of the different types of uses. A proposal of bringing the relevant stages of language change and the different types of uses together is shown in Figure 6. For the first stage, where the expression only has the conventional meaning A, we can assume that there will already be some bridging uses that are

will also acquire a conventional status.

potentially ambiguous, i.e. the new interpretation is not yet part of the conventional meaning, but it is pragmatically licensed. At this stage, though, the number of conventional uses will generally exceed the number of bridging uses (CUs » BUs). For the stage of overlap, two substages can then be distinguished at the level of discourse. At a first stage IIa, conventional uses and bridging uses continue to occur, but their proportions are changed, i.e. there is a higher proportion of BUs (BUs » CUs). At a further stage IIb unambiguous cases of new uses can then be observed. If the change goes on and leads to the extinction of the original unit X, only bridging uses and new uses will be possible in this final stage then.

Level of the language system	Stage I unit X	Stage II stage of overlap units X and Y		Stage III (after unit X has disappeared) unit Y
Level of discourse	Stage I CUs » BUs	Stage IIa BUs » CUs	Stage IIb CUs, BUs, NUs	Stage III NUs, BUs
	CU BU CU CU BU CU	BU BU BU CU CU BU	CU BU BU NU NU CU	NU BU BU NU NU NU

Figure 6 Stages of change at the level of the language system and types of use at the level of discourse for processes of reanalysis

Usage-based approaches to language change suggest that the different stages of language change at the level of the language system do not have clear-cut boundaries and that the transition from I to II (conventionalisation of new unit Y) and from II to III (loss of unit X) should best be understood as gradual processes.[18] The stages of change assumed at the level of discourse, in contrast, have (at least theoretically) clear-cut boundaries which ideally can be established at least approximately (depending on the availability of relevant corpus data): the transition from I to IIa is marked by a transition from a higher proportion of CUs to a higher proportion of BUs, the transition from IIa to IIb is determined by the first occurrences of NUs in the corpus data, and the transition from IIb to III is marked by the fact that CUs no longer occur.

These reflections can also be linked back to the theoretical discussion in section 2 of this paper. Whereas section 2 focused on the introduction, diffusion and conventionalisation of a new unit (Y), Figure 6 also takes into

18 Hansen (this issue) points out that "unlike switch contexts, bridging contexts are not necessarily a clearly delimited stage of evolution" and underlines that this assumption represents a major point of divergence between her model and that of Heine (2002). As shown in Figure 6, the model I propose adopts even a more radical position, as it assumes that bridging uses can occur in all the different stages of change.

account the possible loss of the original unit X, which may accompany this process. Stage III thus describes a further reductive change that is not taken into account in Figure 1. What has been described as the innovation stage in Figure 1 takes place during stage I, where the first bridging uses occur. Stage II, the stage of overlap, includes what has been described as the diffusion stage and the stage of full conventionalisation of the new unit Y. It needs to be acknowledged that (early) diffusion immediately starts after innovation, i.e. somewhere during stage I. For quantitative corpus analyses, however, it seems reasonable to focus on the stage when the diffusion process is already well in progress, as documented by a higher proportion of bridging uses. In this respect, Figure 6 also contains a methodological and heuristic proposal concerning investigations of diffusion. This proposal will be commented on in more detail in the next section, where the measure of bridging use exposure will be introduced.

It should also be stressed that the final stage is not reached in many processes of change, i.e. in many cases unit X still continues to exist in the language system after the introduction of unit Y. If we aim to investigate the rise of new meanings or structures, it is thus the first three stages at the level of discourse which are of key interest. Two main tasks can be identified here. A first aim will typically consist in identifying the earliest new uses, i.e. the switch uses that mark the beginning of the stage when the new interpretation has clearly been introduced. A second aim is then to identify the beginning of the second stage, i.e. the moment when the change is actually becoming manifest.

Generally speaking, it can be assumed that there is a relevant shift in the weight of CUs and BUs here, which gives the BUs a stronger impact and thus favours the diffusion of the new interpretation. This relative weight of BUs can again be interpreted at different levels. From a cognitive perspective, a stronger weight corresponds to a stronger degree of entrenchment, which is linked to frequency of exposure and use as well as to a high cognitive salience of the new interpretation. From a quantitative and corpus linguistic perspective, the frequency of BUs represents an important criterion. Thus, a complex interaction of factors can be observed here. Moreover, the diffusion of innovations is not a uniform process, but depends on further factors such as the social structures of the speech community, the prestige of speaker groups and channels of diffusion.[19]

19 In this respect, an issue for further research would be to integrate factors such as salience and social network structure as well as the notion of discourse traditions more systematically into investigations of innovation and diffusion processes (see e.g. Blank 1997: 103–130).

6 A two-step methodology for corpus linguistic analyses of reanalysis based on Bridging Use Exposure (BUE)

Following the reflections outlined above, I would like to present in the remainder of this paper a two-step methodology for corpus-linguistic investigations of reanalysis that is based on the quantitative interpretation of the weight of BUs. The approach is based on the following assumptions:

1. Usage-based interpretations happen frequently without going noticed and without spreading in the speech community, as subsequent hearers and speakers will frequently "correct" their interpretations and adopt the "old", conventional interpretation following further exposure to conventional uses of the expression.

2. At least in corpus linguistic approaches, reanalysis is therefore necessarily studied in retrospect, i.e. based on non-ambiguous occurrences of the new structure (new uses / NUs).

3. The neoanalyses that represent the initial step of processes of reanalysis occur in scenarios where both the conventional and the new interpretation are licensed by the context, i.e. in bridging uses (BUs) characterised by a combination of (potential) semasiological and onomasiological ambiguity.

4. For the period that precedes the earliest occurrences of new uses, bridging uses can be interpreted as possible innovation scenarios.

5. Conventional uses may block the diffusion of the new interpretation in the speech community and its entrenchment in the individual speaker, especially at early stages of diffusion of the new interpretation.

6. For reanalyses in order to be "successful", i.e., to diffuse in the speech community and lead to language change, strong exposure to uses in which the new interpretation is licensed (BUs) acts as a favouring factor.

According to these assumptions, two main tasks can be identified: first, the starting point of analysis will be the identification of non-ambiguous new uses, and more specifically, of the earliest occurrences of these uses that can be observed. These switch uses define the limit by which the new interpretation must have been introduced. In a second step, the corpus data of the preceding period can then be investigated in order to identify potentially ambiguous bridging uses and their relative frequency compared to unambiguous

ous uses in the conventional meaning. A first hypothesis that is proposed here can thus be formulated as follows:

> H1: The notion of ambiguous bridging uses can be operationalised in quantitative corpus studies.

Moreover, I assume that it is not the token frequency of the expression or the bridging uses alone which is important, but the relative frequency of (potentially) ambiguous bridging uses:

> H2: The higher the ratio of bridging use exposure, the more strongly reanalysis will be favoured.

This relative frequency can be expressed by the following measure of bridging use exposure (BUE):

$$BUE = \frac{\text{\# of BUs}}{\text{Total \# of Token Occurrences (CUs + BUs)}}$$

Finally, I would like to argue that for a particular change in order to be successful, i.e. to spread across the speech community, it can be postulated that bridging use exposure should normally exceed 50%, i.e. there should be more bridging uses than conventional uses, so that the individual speakers are more likely to be confronted with uses that at least allow for the new interpretation. This assumption is summarised in a third basic hypothesis made here:

> H3: In the period preceding the first switch uses, bridging uses will typically represent at least 50% of the corpus data.

These hypotheses will be examined by two case studies in the following section. Before presenting the corpus analyses, a further general issue needs to be discussed though. We can expect that in many cases the corpus data will not only contain conventional uses, bridging uses and new uses, but also other uses of the relevant expressions. For example, the expressions can also appear in a homonymous meaning which is not semantically related to the conventional or the new meaning relevant to the change, or there can be uses where the expressions occur as a different part of speech. Therefore, the question arises whether these other uses should also be counted in the analyses and go into the calculations of bridging use exposure. It could be argued that these uses have a certain impact on the entrenchment of the conventional, bridging and new uses of the expressions. However, as it can be assumed that the speakers will not perceive them as being directly related to the items that are relevant to the change, it appears more plausible to exclude them from the quantitative analyses when it comes to calculating bridging use exposure. In the case studies in section 7, I will therefore first give an overview of the number and nature of other uses, but discard them in the calculations of bridging use exposure.

7 Case studies

7.1 *French [poule] d'Inde > dinde'turkey'*

The evolution of French *dinde* 'turkey' illustrates a lexical reanalysis in which expressions such as *poule d'Inde* CHICKEN FROM INDIA or *coq d'Inde* COCK FROM INDIA, used in the 14th and 15th century for newly introduced birds – first, the Abyssinian guinea fowl, then turkeys discovered in Mexico and imported to France –, were reinterpreted in the 16th century (PR, DHLF). The reanalysis involves a boundary loss, more specifically, a fusion of the preposition *de* / *d'* with the following proper noun, at the same time, we can speak of a univerbation here:

(10) *poule d'Inde* 'chicken from India' → *dinde* 'guinea fowl / turkey'

In contemporary French, the interpretation 'from / of India' is still preserved for [dɛ̃d], but a clear split between the noun *dinde* and the prepositional phrase *d'Inde* has been established at the level of spelling, which reflects the different morphological structure. Therefore, these two expressions are no longer perceived as being related by average speakers of French.

In order to study this reanalysis, a corpus study was conducted with Frantext, a database containing roughly 260 million words from written French (https://www.frantext.fr/, Frantext includes different text types and domains, but a bias to literary texts needs to be acknowledged). Different morphological and spelling variants were included: forms with and without the plural marker -*s*, variants with the letter <y> which functioned as an allograph of the letter <i>, and variants where the morpheme boundary is indicated by the apostrophe as well as variants where the morphemes are graphically joined, a phenomenon which was very frequent for elided vowels until the 16th century (see also e.g. the spelling <lille> for Det + N *l'ille* in example (11)). The search thus included *dinde*, *dindes*, *dynde*, *dyndes*, *d'inde*, *d'indes*, *d'ynde*, *d'yndes* and yielded 1,100 results dating from 1190 to 2009 (search conducted on 28.04.2020). Moreover, the data includes forms with and without an initial capital letter. In the following discussion, I will refer to all of the variants as {DINDE}. In a next step, the different types of uses were annotated for the relevant time periods by contextual analyses, taking into account as much of the preceding and following context as was assumed to be relevant for the interpretation of the expressions.

The search also yielded occurrences where the expression {DINDE} is used as a colour term ('violet / blue'). This meaning is diachronically related to the geographical meaning 'India' designating the origin of the dye (cf. DAF), but can be assumed not to have influenced the reanalysis studied here. These results were thus analysed as "other uses".

Conventional uses are cases in which the expression {DINDE} unambiguously refers to the geographical interpretation 'of / from India' (11).[20]

(11) Il est sire de lille de Chatay et demaintes autres illes et de grant partie **dinde** [...]. (Jean de Mandeville, *Voyages* (1360), Ch. 6, p. 250)
'He is ruler of the island of Chatay and of many other islands and of a great part of India'

Concerning the identification of bridging uses and new uses, the following criteria were adopted: Bridging uses were assumed for occurrences where {DINDE} is preceded by a noun N_1 designating a kind of bird (or a hypernym such as *poulaille* POULTRY), and where the complex expression allows for both interpretations, i.e. the old interpretation as a N Prep N syntagmatic compound CHICKEN / COCK / ... FROM INDIA, and the new interpretation as a nominal compound with the modifier *dinde*$_N$ specifying the (new) subclass of birds (as Amiot 2020: 1924–1925 indicates, the $[N_1\ N_2]$ compound pattern is already well attested in Old and Middle French). In both cases, the pronunciation of the relevant string remains exactly the same [dɛ̃d]. From the latter interpretation, the new expression *dinde*$_N$ can easily be obtained in a further step via an ellipsis of the first element of the compound (*poule dinde* → *dinde*, cf. French *ordinateur portable* → *portable* 'laptop', *téléphone portable* → *portable* 'mobile phone' etc.). The bridging uses can be illustrated by the following examples:

(12) Et la veismes des perdriz aussi grosses comme **poulles dinde**, et plus noire [sic] que j'en vy jamais. (Anonyme de Rennes, Les Pèlerinages occidentaux en Terre Sainte [...] (1486), p. 46v)
'And there we saw partridges as big as hens from India / turkey-hens, and [they were] more black than I have ever seen.'

20 All the following examples and references are cited from Frantext. The bibliographical references of the source texts are abridged for reasons of space. The translations are mine.

(13) Comme sus un tapiz verd, je l'ay veu certainement verdoyer: mais y restant quelque espace de temps, devenir jaulne, bleu, tanné, violet par succes: en la façon que voiez la creste des **coqs d'Inde** couleur scelon leurs passions changer. (François Rabelais, Le Quart Livre (1552), Ch. 2, p. 919)

'[...] in the same way as you see the crest of the cocks from India / turkey-cocks change colour depending on their passions [their humour]'

(14) Poulles bouillies et Hortolans gras chappons au blanc manger. **Cocqs, poulles, et poulletz d'Inde**. Gelinottes. (François Rabelais, Le Quart Livre (1552), Ch. 59, p. 1171)

'[...] cocks, hens, and poults from India / turkey-cocks, -hens and -poults'

(15) [...] comme sont l'Autruche, l'Otarde, la Cane petiere, le Francolin, la Perdris de Grece, noz Perdris rouges et grises, les Perdris de Syrie, les Perdris de Damas, les Perdris blanches, le Pluvier, la Beccasse, le Coc de bois, autrement nommé le Faisan bruant, la Gelinote de bois, le Rasle de genest, le Paon, les **Poulles d'Inde**, les Poulles de la Guinee, le Coc privé et les Poulles privees, la Caille, le Faisan. (Pierre Belon, L'histoire de la nature des oyseaux (1555), Ch. 2, p. 7)

'[...] the peacock, the hens from India / turkey-hens, the chickens from Guinea...'

The relevant expressions that were interpreted as bridging uses are listed in their original spelling in chronological order in Table 1 (the original spelling including capitalisation is kept, if there are several occurrences, their number is indicated in brackets).

Example (16) represents a particularly interesting bridging use, as there is a syntactic ellipsis of the N_1 noun *poules* which represents the head of the compound *poules d'Indes* according to the old interpretation ("ces grosses poules que nous appellons [poules] d'Indes"). Such cases of ellipsis are licensed by the grammar of French, and the old interpretation *d'Indes* 'of India' can thus be straightforwardly adopted here. At the same time, the string "d'Indes" is no longer directly linked to the expression "poule" at the surface level of the sentence, and the target concept TURKEY is very salient here. Moreover, "d'Indes" appears directly after the verb, which may trigger an interpretation of this string as a noun representing the direct object of *appeler*.

1486–1574	1575–1599	1603 (Olivier de Serres)
poulles d'inde	coq d'Inde	les canes communes et d'inde
coqs d'Inde	poule d'Inde (2)	canard d'inde (2)
poulletz d'Inde	cane d'Inde	poule d'inde (6)
Poulles d'Inde (4)	cannes d'Indes (2)	Poulaille d'Inde (2)
Coq d'Inde (7)	poulles d'Indes	poulaille d'inde (3)
Coqs d'Inde (2)	coq d'Inde (2)	coqs d'inde
Poulle d'Inde	paons d'Inde	cane d'inde
poules d'Inde	poules d'inde	coq d'inde
coqs d'Inde		canards d'inde
poulle d'Inde		poules d'inde (2)
poulles d'Inde (3)		poules d'indes (2)
coq, ou paon d'Inde		Canes communes, d'indes,
paons d'Inde		mestives ou bastardes (2)
coq d'Inde		

Table 1 $N_{[\text{bird name}]}$ {DINDE} expressions in Frantext

(16) […] ces grosses poules que nous appellons **d'Indes**, lesquelles eux nomment Arignanoussou […]. (Jean de Léry (1580), Histoire d'un voyage faict en la terre du Brésil (1578), 2e éd., 1580, Ch. 11, 276)

'these big hens that we call [hens] from India / turkeys, which they call Arignanoussou'

Further features need to be discussed: the relevance of the presence or absence of the apostrophe, the presence or absence of the initial capital letter for the proper noun, and the presence of the plural marker -*s* for {DINDE} in some of the occurrences. To what extent can these features be interpreted as indicators that the expression has already been neoanalysed, i.e. can or should they be interpreted as criteria for new uses?

Concerning the plural marking (see e.g. (16)), it could be assumed that the plural form points towards the new interpretation. Yet, the plural form also occurs for the proper noun in its geographical meaning in unambiguous uses, so the marker -*s* does not represent a criterion for new uses. Similarly, it has already been pointed out that the absence of the apostrophe cannot be interpreted as a clear sign that the speakers do not assume a morphological boundary. Conversely, we can also find clear cases of new uses where the apostrophe is still preserved (see the examples below). Hence, this factor also needs to be discarded. Finally, the absence of the capital letter in *d'inde(s)* / *d'ynde(s)* does not represent a reliable criterion either, as we can find both unambiguous cases of conventional uses without the capital letter and unambiguous cases of new uses with the capital letter. Summing up, spelling phenomena do not represent reliable criteria for the reanalysis of {DINDE}, which is also due to the fact that no strict orthographic norm of French had been established at the relevant time period yet.

How can we then identify unambiguous cases of new uses? Various semantic and morphological criteria can be envisaged. A new use would need to be assumed if there are co-occurring items with meanings that are not compatible with the original geographical interpretation (e.g. *une dinde mexicaine* 'a Mexican turkey', *une dinde du Mexique* 'a turkey from Mexico'). However, no occurrences of similar expressions were found in Frantext.

The co-occurring items provide other relevant cues though. For occurrences of {DINDE} in lists of bird names, e.g. "les d'indes, oyes, et canes" (Frantext 1603), it is in my view highly plausible to assume that the form is used in neoanalysed form ('the turkeys, geese and ducks').

In addition to that, further lexical innovations based on the new expression represent a good criterion. For *dinde*, a semantic change towards the meaning 'conceited and stupid woman or girl' has occurred (first attestation according to TLFi 1752), and this change can only be explained as arising from the new interpretation as a bird name. Interestingly, the first figurative use in Frantext represents a case where *dinde* is used to insult a male person (17). In the same source, we then also find a metaphorical reference to a woman in a comparison (18).

(17) Courage , me crioit Phocion! Oh le vrai **dinde**, va-t-il tomber comme toute cette canaille d'écuyers? Pendant qu'il parloit ainsi, le cheval me donnoît de sa tête dans la machoire; les paroles de Phocion m'animèrent. Non, dis-je à mon cheval, tu ne feras point quitter les arçons au fils de Monsieur Brideron. (Pierre de Marivaux (1736), Le Télémaque travesti, Livre 4, 134)

'Oh the real turkey, will he fall down [from the horse] like all this rabble of equeries?'

(18) Mélicerte se rengorgeoit comme une **dinde**, de dépit, en entendant ces paroles. (Pierre de Marivaux (1736), Le Télémaque travesti, Livre 5, 158)

'Mélicerte pranced like a turkey, in annoyance, when she heard these words.'

Moreover, the examples (19) and (20) illustrate word formations based on the neoanalysed form. These include the suffixations *dindart* 'turkey hatchling' (also with the spelling *d'Indart*, which again confirms the unreliable nature of spelling phenomena as indicators of the old vs. new interpretation), *dindon* '(young or adult) turkey' and *dindonneau*, 'young turkey' (PR, TLFi, Frantext). In some cases, we also find direct semantic and morphological analogies to other bird names designating the FEMALE ANIMAL and suffixed forms for the HATCHLINGS (see example (20) and Table 2, see also *dinde – dindart* like *cane – canart / canard*).

(19) [...] ni la conduicte de ses **d'indons**: si ce n'est par contrainte, qui peut avenir, lors que se voulant peupler de ce bestail, et ne le pouvant faire que par oeufs, d'iceux en faut nécessairement commettre la charge aux poules communes, lesquelles assés bien en viennent à bout pour le peu de nombre; car plus de cinq ou six oeufs n'en peuvent-elles embrasser. Quelle que soit la poule couvante les oeufs de **d'inde**, pour le naturel des oeufs, employera à les esclorre environ un mois. (Olivier de Serres, Le Théâtre d'agriculture et mesnage des champs, t. 1 (1603), De la conduite du poulailler, Ch. 3, La Poulaille d'Inde, p. 397)

'nor the conduct of its [turkey] hatchlings [...] Whatever hen it will be that incubates turkey eggs, given the nature of the eggs, it will need about one month to hatch them'

(20) Et sans sortir de ce discours, la mère-de-famille ordonnant de toute sa poulaille, commettra la charge des oeufs d'**oye** et de **cane**, à la **poule** commune, des oeufs de **d'inde** à la **d'inde** : à elle-mesme ceux de poule commune, pour les raisons dictes : et la conduicte des **poulets** au chapon ; les **d'indons**, **oysons** et **canetons**, indifféremment à la **d'inde** et à la **poule** commune. (Olivier de Serres, Le Théâtre d'agriculture et mesnage des champs, t. 1 (1603), De la conduite du poulailler, Ch. 5, p. 406)

'the family mother who commands all her poultry, will give the charge of the goose and duck eggs to the common hen, of the turkey eggs to the turkey, to the latter those of the common hen, for the aforementioned reasons, and the conduct of the chicks to the cockerel, the turkey, goose and duck hatchlings to the turkey and the common hen alike'

bird	name for female animal	name for hatchlings
turkey	*d'inde*	*d'indons*
goose	*oye*	*oysons*
duck	*cane*	*canetons*
chicken	*poule*	*poulets*

Table 2 Lexical analogies for the names of female animal and hatchlings

Having identified the different kinds of relevant uses, we can now turn to a quantitative overview of the data. In order to investigate the evolution of the different uses in time, the data is grouped into 25-year time spans. An overview of the results is shown in Figure 7. The earliest new uses in the data, which can be interpreted as switch uses, are found in 1603 in a treatise on agriculture by Olivier de Serres (see examples (19) and (20) above). It needs to be mentioned though that this does not imply that all of the occurrences of {DINDE} in Olivier de Serres' text represent unambiguous cases of new uses, as there are still a number of bridging uses in his text as well. After de Serres, no other new uses can be found until the first half of the 18th century, where they are attested in different sources. The following analyses will therefore be based on annotations of the search results from the earliest occurrences in Frantext to the year 1774, which include a total of 302 occurrences. These are distributed across 92 different documents and more than 70 different authors (for some of the documents, no authorship is indicated, so that the exact number of authors cannot be given).

First of all, the analyses confirm that a significant number of bridging uses can be found in the data, so that hypothesis H1 formulated in section 6 is confirmed. Based on the frequencies, the bridging use exposure was then calculated for the relevant time period as shown in Figure 8 (starting from the period which precedes the first occurrences of bridging uses in Frantext). The data shows that for this example, hypotheses H2 and H3 are also confirmed. There is a clear increase in the ratio of bridging use exposure in the time spans preceding the first new uses (H2). And more specifically, if we look at the period preceding the first new uses / switch uses in de Serres, i.e. 1575–1599, we can see that the measure of bridging use exposure exceeds the postulated threshold level of 50% by far, as 86% of the occurrences represent bridging uses (H3). In this way, we can identify in the data the stages of change at the level of discourse usage assumed in section 5: after a first period where conventional uses dominate, although there are already some cases of bridging uses as well (stage I, until 1574, but see already the relatively high number of 42% of bridging uses the period 1550–1575), the ratio of bridging uses consid-

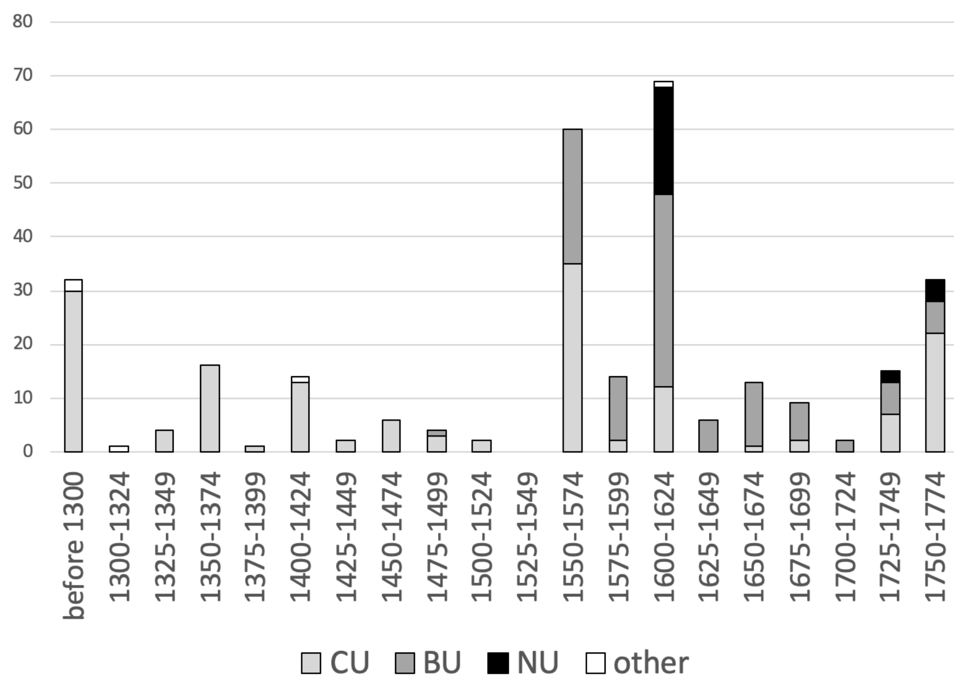


Figure 7 Absolute frequencies for conventional uses, bridging uses, new uses and other uses of {DINDE} in Frantext

erably increases in a second stage (IIa, 1575–1599). As shown above, in stage IIb (from 1600 on), conventional uses, bridging uses and new uses coexist.

It might be objected that all of the new uses observed between 1600 and 1624 are only found in one source, i.e. Olivier de Serres, and that it might be problematic to assume that the change documented in his text already represents common usage. Even if we discard the new uses found in his text, the basic observations are still confirmed though: if we consider that the first valid new uses only occur from 1725–1749, where they are documented in different authors, and where we also find figurative uses of the neoanalysed expression, the ratio of bridging use exposure for the preceding time spans always exceeds 50%, which confirms again both hypotheses H2 and H3. The basic stages of change would then correspond to a first period until 1574 (stage I, dominance of conventional uses alongside some cases of bridging uses), followed by the period from 1575 to 1724, where bridging uses predominate

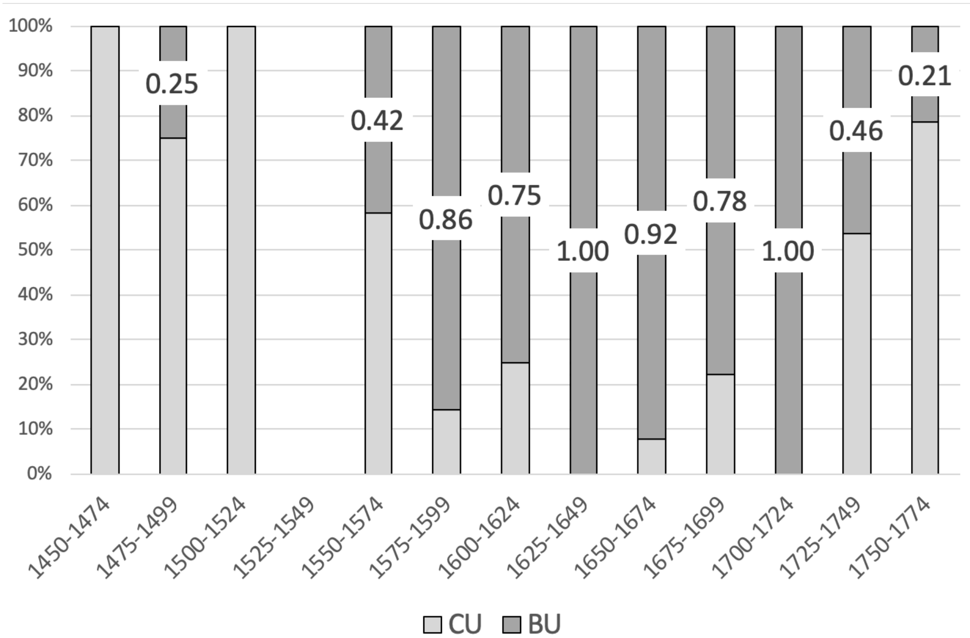


Figure 8 Bridging use exposure for {DINDE} in Frantext

(with some cases of conventional uses, stage IIa), and the next period from 1725 on, where all types of use are attested (stage IIb).

The quantitative analyses thus show that the distinction of conventional uses, bridging uses and new uses can inform us about this process of language change, and confirm the hypotheses made in section 6. In addition to that, some brief remarks on further factors of change can be added. For the reanalysis of {DINDE}, the new interpretation is highly salient in the relevant corpus examples. With the importation of the bird, a new referent and concept has been introduced. Moreover, the bird represents a new and "fashionable" kind of food, which is economically important. It provides relatively large amounts of meat and is therefore interesting for breeders. At the same time, a structural markedness of the expression *poule d'Inde* TURKEY can be assumed. The expression represents a syntagmatic compound, which is thus morphologically more complex than a monomorphemic noun *dinde*. Similarly, the number of syllables and phonic and graphic segments of *poule d'Inde* is higher than for *dinde*.

Concerning social network structures in the diffusion of the neoanalysed form, Olivier de Serres' text represents a handbook which was highly influential at his time, which is confirmed among other things by the numerous reeditions of his book. It can thus be assumed that his recommendations quickly reached the breeders, who represent the most relevant user group for the new lexical item at least at a first stage of time. This change thus also confirms the importance of specific user groups within the speech community.

7.2 *French pendant 'during'*

French *pendant* 'during' illustrates a case of grammatical change, and more specifically, a case of grammaticalisation in which the participle of the verb *pendre* 'to hang' has been reanalysed and has become a preposition *pendant* 'during'. This reanalysis thus involves a boundary loss and a categorial relabeling (see (21)). The preposition has further evolved into the complex conjunction *pendant que*, which has acquired an adversative interpretation ('whereas') alongside its original temporal meaning 'while'. In the following section, I will only focus on the first change.

(21) *pend-ant* → *pendant*
hang-PTCP during

This change can be explained by a reinterpretation (i.e. a neoanalysis) of the adjectivised present participle *pendant* in the juridical meaning 'pending' in Old French (first attestations given in DHLF: 1278; PR: 1265; see also Wilhelm 2016: 531–532; Fagard, Hoelbeek & Mulder 2020: 1620; De Roberto 2012: 162–168 on Old Italian *durante* / *pendente* and Baldinger 1954, who already presents a very fine-grained analysis of the innovations in the domain of *pendant*, *durant* and *constant*). The juridical use was common in expressions such as *le plait pendant* 'the process pending', *le débat pendant*, 'the debate pending', i.e. during the ongoing process, as long as the ongoing process was not finished. These expressions were calqued on juridical expressions in Late Latin with the *ablativus absolutus* (*judicio pendente*, *lite pendente*, *causa pendente*).[21] The adjectivised participle could also be put in front – *pendant le plait*, *pendant le*

21 As Baldinger (1954: 308–310) shows, shifts from the interpretation of a pending process to a pending matter of dispute as well as to a still undecided dispute, a period that is not yet concluded or a respite that has not yet expired, can already be observed in the Medieval Latin uses as well. The last step towards the temporal interpretation 'during' in contrast, only occurs in French.

débat, etc. The ambiguity between the juridical and the temporal interpretation can be observed independently from word order, but the word order *pendant* + NP prevails in the new uses of *pendant* as a temporal preposition. The change can thus be summarised as indicated in (22). *Pendant* is first used with juridical terms, then it also occurs with temporal expressions, indicating a period to be respected (first attestation according to DHLF in 1321). In later uses, it occurs with other nouns indicating any action or process (first attestation according to DHLF in 1432; PR: 14th century), and it also refers to time periods in the past. From a semantic point of view, the new interpretation thus implies a figure-ground shift from the focus on the endpoint of a certain period to the duration of the period.

(22) *pendant*$_{\text{PresPart(adj)}}$ *le plait* 'the process pending' → *pendant*$_{\text{Prep}}$ *le plait* 'during the process'

In order to analyse this change, I will also include the expression *ce pendant* / *cependant*. At a first stage, it represents a formulaic expression used in juridical contexts in the meaning 'this [period] being about to expire' (around 1278 according to DHLF, PR, TLFi), but early it also occurs outside of juridical contexts.

Based on the information provided by the standard dictionaries and previous studies, the Frantext search was restricted to the period between the first occurrences and 1449, as the uses of the temporal preposition are very stably attested in the 15th century, and I assume that the conventionalisation of the new use was concluded at the middle of the century.[22] The search yielded a total of 297 results (search for "pendant": 265 results [including occurrences of "ce pendant"], research for "cependant": 32 results, search conducted on 03.05.2020 / 08.06.2020). The results are distributed across 69 documents from more than 33 different authors (again, various documents with anonymous authorship are included).

Conventional uses are illustrated by examples in which *pendant* is used as a participle of the verb in its literal meaning 'hanging'. In these uses it is combined with an NP designating a concrete object, e.g. a banner (23), or a person that has been hanged, e.g. in the context of the crucifixion of Jesus (24).

22 Note though that the old juridical use also remains possible even in contemporary French, e.g. *ce procès est pendant*, *l'instance / la cause est pendante*. This example thus illustrates a change where stage III indicated in Figure 6 above, i.e. loss of the original uses, is not (yet) reached, and where the old and the new use stably coexist over several centuries.

(23) A son col li pendirent un escu d'olifant,
Hanste ot roide de fresne et gonfanon **pendant**.
(Alexandre de Paris, Roman d'Alexandre, branche 1 (1180), p. 34)
'They put [hanged] around his neck an ivory shield, it had a stiff handle made of ash wood and a banner hanging down.'

(24) Son corps **pendant** et estendu,
Pour moi son sanc fu espendu.
(Guillaume de Digulleville, Le Pèlerinage de vie humaine (1330), III, p. 97c)
'His body hanging and extended, for me his blood was spilt.'

Moreover, there are uses of *pendant* as a participle of the verb in a figurative meaning. These include isolated cases where *pendant* is used for a metalinguistic description of syntactic dependency, and, most importantly, figurative uses in the juridical sense 'pending'. There are various occurrences of formulaic expressions where *pendant* is coordinated with the past participle of the verb *mouvoir* (lit. 'to move, to stir') and followed by other prepositions (*devant*, *en*), e.g. (25)a, b, and other cases where *pendant* is syntactically unambiguous (e.g. if the noun it relates to is part of a prepositional phrase, e.g. *en la cause pendant ceans* 'in the issue pending herein') and used in its conventional meaning. These occurrences were thus analysed as conventional uses. Nevertheless, the uses in the juridical domain potentially contribute to the change of *pendant* as well, as they increase the entrenchment of *pendant* in juridical contexts.

(25) (a) [...] en la cause meue et pendant devant nous [...] (1327)
'in the issue having been raised and pending in front of us'

(b) [...] une cause meue et pendant en la dicte court [...] (1327)
'an issue having been raised and pending in the said court'

Bridging uses are characterised by a syntactic ambiguity where *pendant* + NP can be interpreted as a participle of the verb in the figurative juridical meaning 'pending' or as a preposition 'during'. In addition to the uses of *pendant* together with nouns for juridical processes or debates (see (27)), uses with nouns indicating a time period are also attested early (see (26)). These uses were still counted as bridging uses as long as the juridical context was directly given, i.e. as long as the time period was defined by juridically relevant aspects and represented a juridically defined respite, and the expression was embedded in a declarative speech act.

(26) [...] nous lui avons donné terme, respit et souffrance jusques à Saint Michel prochain venant, **pendant** lequel temps le ferez, souffrez et laissiez joir paisiblement, comme dit est [...] (Anonymous, Le Canarien, Pièces justificatives (1327), p. 484)

'we have given him term, respite and sufferance until the next holiday of Holy Michael, and this time pending / during this time, you will make him and let him live in peace, as it is said'

A very interesting bridging use is shown in (27), where *pendant* is coordinated with *depuis*, which already represents a temporal preposition. In this usage context, the neoanalysis of *pendant* is thus strongly favoured.

(27) [...] et a leur paier avecques ce les dittes huit annees qui deues leur en estoient au commencement de ce plait, qui commença le seiziesme jour duditmois de juing, comme dit est, avecques ceuls qui depuis et **pendant** ce plait en estoient escheuz et escherroient [...] (Anonymous, Chartes et documents de l'abbaye de Saint-Magloire, t.3 (1330), 269, p. 603)

'and to pay them together with this the eight years owed to them at the beginning of this process, which began on the sixteenth day of the abovementioned month of June, as it is said, together with [the debts] that since [from the beginning of] and during this process [until the end of this process / while this process is pending] are due and will be due'

For new uses, in contrast, there is no longer a potential ambiguity between the juridical and the purely temporal interpretation. New uses were thus assumed for cases in which *pendant* is used outside the juridical context in a temporal meaning, e.g. with NPs that express externally determined time periods (e.g. *pendant ycelli an* 'during this year'). A particularly important source for these new uses are historicographic texts. Here, *pendant* frequently refers to a time period that is related to certain historical events in the past, and it thus occurs in a narrative context which is fundamentally different from the declarative juridical speech acts (see (28)). Moreover, the expressions *pendant ce*, *ce pendant* are particularly important among the new uses, and chronologically they represent the first occurrences of the new interpretation ('during this [time etc.]').

(28) Lesquiex de là s'en alerent à Carthage et n'i firent riens et, pour ce, s'en retournerent à Romme, **pendant** lequel temps la cité de Sagonte fu destruite [...] (Raoul de Presle, La Cité de Dieu de Saint Augustin, 1,1, I–III (1371), Ch. 20, p. 146)

'And from there they went to Carthage and made [achieved] nothing there and, therefore, they returned to Rome, and during that time the city of Sagonte was destroyed'

Example (29) illustrates the use of *pendant ce que*, which functions as a complex conjunction with a temporal meaning. This use represents a further innovation, and the 8 occurrences of this expression will thus be excluded from the further quantitative analyses. But as this use presupposes the reinterpretation of *pendant* in a temporal sense, it can serve as an indicator that the relevant neoanalysis has already taken place in a previous step.

(29) Titus les appelle Alobroges, c'est à dire Bourguegnons; et dit que, **pendant ce que** ilz estoyent asiégé devant le Capitole, il le cuiderent prendre par une estroite voye où ilz ne pouoyent monter que à grant paine et l'un aprés l'autre. (Raoul de Presle, La Cité de Dieu de Saint Augustin, 1,1, I–III (1371), Ch. 22, p. 78)

'Titus [...] says that while they were besieged in front of the Capitol, they intended to capture it by a narrow road [...]'

In addition to that, the corpus data shows that the transitions between the different types of uses can be very smooth. For the new uses of *pendant* in the temporal meaning, we can observe that *pendant* also occurs in narrations of criminal acts, where the juridical context is still given.

Finally, the data also contains other uses of *pendant* as a noun. These include uses in the meanings 'slope' and 'cord, chain' (also listed in the dictionaries, cf. DAF, DHLF) and one occurrence where *Pendant* represents a proper noun. In all these other uses, *pendant* represents a different part of speech, and these uses are thus not directly relevant to the reanalysis of *pendant*.

After this overview of the nature of the different kinds of uses, let us now turn to the quantitative analyses. If we look at the absolute frequencies of the different kinds of uses shown in Figure 9, we can see that – at least according to the data documented in Frantext –, the change of *pendant* was very quick compared to the change of {DINDE}: the first bridging uses are only documented in the time period 1325–1349, which is also the time period in which the first new uses occur. In the time periods after the first bridging uses and new uses, the ratio of new uses then strongly rises to approximately 52% and

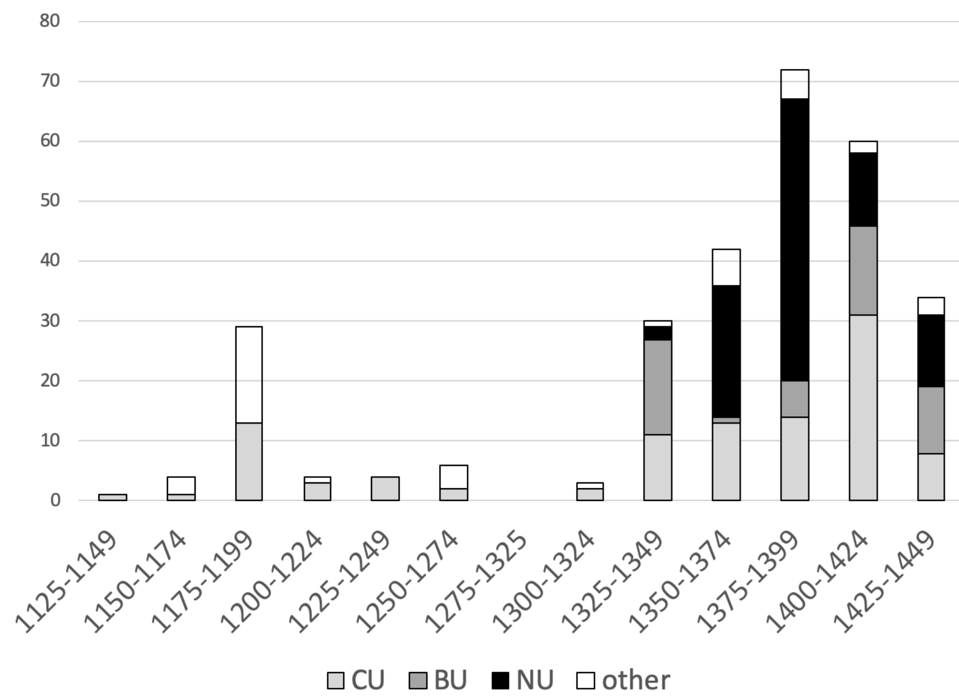


Figure 9 Absolute frequencies for conventional uses, bridging uses, new uses and other uses of *pendant* in Frantext

65% of the occurrences (22 of 42, and 47 of 72 for 1350–1374 and 1375–1399, respectively). In the preceding time periods, in contrast, only conventional uses and other uses are documented.

Based on these observations, Figure 10 presents an overview of bridging use exposure for the relevant time spans.

The data shows that in the relevant time period 1325–1349, the ratio of bridging uses reaches 59%. Thus, the possibility to operationalise the notion of bridging uses (hypothesis H1), the importance of bridging use exposure (hypothesis H2) and the threshold level of 50% of bridging use exposure (hypothesis H3) are also confirmed in this case study. For the subsequent stages, bridging use exposure shows considerably lower scores. Yet, this does not contradict the analysis proposed here. As the corpus data shows, the conventionalisation of the new interpretation was very quick in this change. It is also during the time period 1325–1349 that the first new uses occur, and

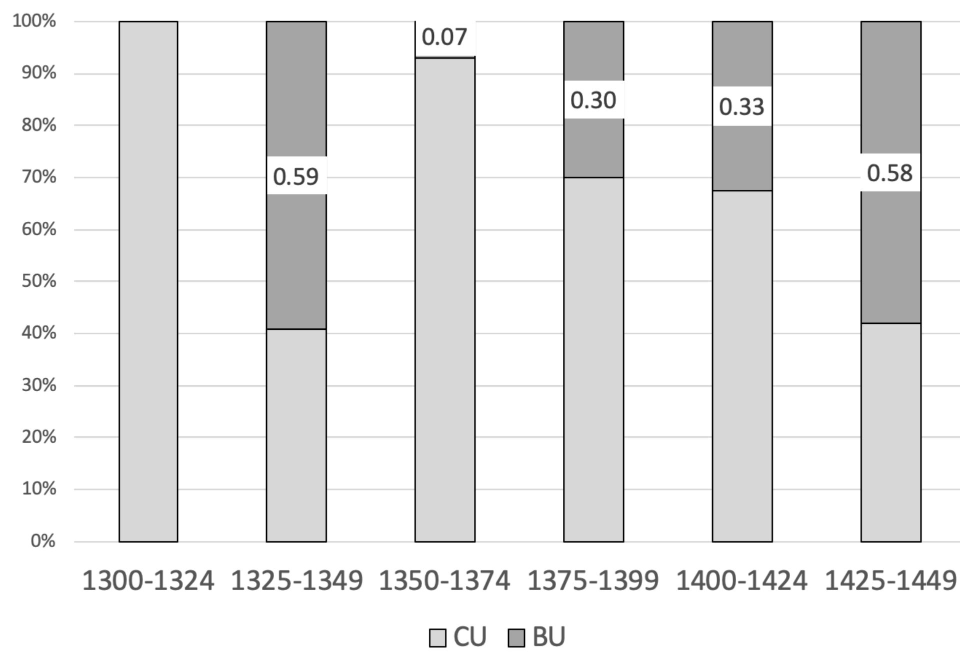


Figure 10 Bridging use exposure for *pendant* in Frantext

for the following time spans, their number quickly rises to 61% (1350–1374) and 70% (1375–1399). Once the new uses have been introduced and stably established, bridging uses therefore no longer play a crucial role.

Moreover, it should be stressed that the fact that bridging uses and new uses collapse in our analysis for the time span from 1325 to 1349 is due to the methodological decision to divide the data into 25-year time spans. The assumed chronology, i.e. the assumption that bridging uses should generally occur before new uses, is still confirmed by the data in Frantext (first bridging use in 1327, first new use in 1349), and if more fine-grained time spans were chosen, these uses could be attributed to different time spans. As the total number of occurrences is relatively low, however, it would be more difficult though to compare the ratio of the different kinds of uses for smaller time spans, as the data for each time span would depend even more strongly on the specific choices of texts included for the different time spans.

In addition to the quantitative findings, some further observations can be made. For *pendant*, the new temporal interpretation can be considered to be highly salient in the relevant bridging uses, as the temporal extension of the relevant time period is directly relevant in a juridical sense. At the same time, the conventional juridical use is strongly marked at the level of syntax: it is calqued on the Latin construction of the *ablativus absolutus*, and it is only used by experts in the technical language of judiciary. In this sense, both the expert use in the juridical domain and the contact between experts and ordinary persons during legal acts and procedures appears to be important for the change observed.

This is also confirmed by the fact that there is an interesting subgroup of conventional uses that can be assumed to have contributed to the change: As mentioned above, we can find many occurrences of *pendant* in juridical contexts where there is no syntactic ambiguity and no reinterpretation (neo-analysis) possible (see the formulae indicated in (25)), but where the entrenchment of *pendant* is nevertheless increased. In the time period between 1325 and 1349, 11 out of 12 of the conventional uses belong to this group, and this clearly shows that the innovation is strongly linked to a specific domain, to specific user groups, and to specific communicative practices or discourse traditions.

Similarly, the important role of *ce pendant* / *cependant* signalled by the lexicographic sources and previous research is confirmed by the data as well: these expressions frequently occur among the bridging uses, and they also represent the first occurrences of the new uses of *pendant*. For the time span 1350–1375, they represent more than 45% of the new uses (10 out of 22).

Finally, I would like to briefly comment on word order. As pointed out above, the structure *pendant* + NP clearly prevails for the temporal uses. Nevertheless, the data contains 5 occurrences where *pendant* is clearly used in a temporal meaning outside the juridical domain, but where it is postposed, i.e. it follows the NP it relates to (see e.g. (30)). In these cases, further factors seem to play a role. In one case, the example occurs in a text in verse, and the succession of the constituents may thus have been influenced by metrical aspects. Moreover, it can be assumed that the uses of NP + *pendant* are influenced by the construction NP + *durant*, which was also introduced in the meaning 'during' in juridical contexts in the 13$^{\text{th}}$ century (cf. DHLF, Baldinger 1954). Follow-up studies on the interplay of these innovations and on the role of analogy in this matter could thus be envisaged.

(30) La demourerent celle nuit et le landemain jusques a heure de tierce. Et cellui temps **pendant**, aucuns chevaliers et escuiers de cellui ost s'estoient alez esbatre vers icellui pont [...] (Jean d'Arras, Mélusine (1392), p. 100)

'[...] and during that time [...]'

8 Discussion

The two case studies have shown that quantitative applications of the measure of bridging use exposure are possible for different types of reanalysis including lexical and grammatical change. All the hypotheses made in section 6 have been confirmed by the corpus analyses. Concerning the first hypothesis, the case studies have confirmed that the notion of bridging uses can be operationalised in quantitative corpus linguistic analyses. For both examples, French [*poule*] *d'Inde* / *dinde* and *pendant*, it was possible to identify (potentially) ambiguous bridging uses in the corpus data. These uses are attested early before and long after clear cases of unambiguous new uses are observed. Processes of language change should thus be conceived of as complex processes which do not always follow clear linear pathways. Instead, the data shows that across the different stages of language change, the speakers are faced with ambiguous uses that give them certain interpretative choices. From a methodological perspective, these choices should be adequately taken into account, i.e. the ambiguities observed should not be disambiguated by the linguist counting the relevant uses as either old or new uses. In other words, investigations of processes of reanalysis should systematically acknowledge the existence of potentially ambiguous uses, and count them as a separate category in quantitative analyses.

Moreover, the analyses have shown that it is methodologically difficult to identify the stage of innovation proper, as potentially ambiguous bridging uses may be documented early before significant quantitative changes in the use of the expressions occur. In contrast, the first unambiguous new uses of the expressions provide a clear criterion which permits us to determine when the new interpretation has already been established to a certain degree. These switch uses thus serve as the starting point for corpus analyses in the two-step methodology proposed in section 6. In a next step, we can then return to the notion of bridging uses in order to investigate their qualitative nature and quantitative importance in the periods preceding the switch uses. Again, for both case studies, the analyses have confirmed that the share of bridging uses manifestly increases in the relevant time periods (see hypothesis H2), and more specifically, for both examples, the measure of bridging use exposure exceeds the postulated threshold level of 50% in the period preceding the first switch uses (see hypothesis H3). Bridging use exposure thus informs us about the period in which the diffusion of the new interpretation reaches a decisive level, so that the speakers are very likely to be confronted with uses that suggest or at least allow for the new interpretation. The results obtained here can thus be linked to previous studies such as Breban (2010), who has shown that ambiguous corpus examples can help identify those contexts that trigger change (see also previous reflections on onset contexts and the utterance situations in which changes are initiated, e.g. Eckardt 2006 and Traugott 2012b).

In addition, the two-step methodology proposed in this paper complements previous studies by focusing on the proportions of the different kinds of uses of the expressions at the different stages of change. In this way, the approach allows us not only to study changes in high frequency scenarios but also to investigate changes in low frequency items. The measure of bridging use exposure suggests that the relative proportion of bridging uses compared to conventional uses might be more important than absolute frequencies. In this respect, it is interesting to note that for both case studies, the innovations arise from uses in restricted user groups in the domains of agriculture and judiciary before spreading to a broader community of speakers. Innovations may thus be successfully conventionalised in relatively small, but homogeneous user groups, e.g. agriculturists for *dinde*, and writers with knowledge of juridical jargon for *pendant*.

The findings therefore suggest that the importance of high frequency as a trigger for change (see e.g. Bybee who considers that high frequency represents a "primary contributor" to grammaticalization, Bybee 2003: 602) might need to be relativized (see e.g. Hoffmann 2005 on grammaticalisation in low frequency scenarios). Further research on innovations in low frequency scenarios is required to investigate this issue in more detail. At the same time, these general findings can also be linked to previous investigations on the importance of the homogeneity of usage contexts for processes of language change (see e.g. Bybee who points out that "(a)lternating contexts retard change, while uniform ones allow change to hurry ahead", Bybee 2007: 260).

Some further methodological issues need to be acknowledged as well. The numbers of occurrences of the different time periods strongly depend on the definition of the time spans. For the examples studied, the absolute numbers are still relatively low, and the confirmation of the threshold of 50% therefore depends on relatively few examples. For example, for the relevant time span preceding first new uses of French *pendant*, 3 occurrences roughly correspond to 10% of the data. The approach taken in this paper was to choose time spans 5 years shorter than a speaker generation of 30 years, and for most of the time spans, the data obtained permitted a meaningful interpretation. Further research is required though: as corpus studies necessarily depend on the available corpus data, the investigations will in many cases be limited, and the division into reasonable time segments will need to be addressed and possibly adapted for individual case studies. If recent developments in web corpora are studied, much more fine-grained time spans can be envisaged as well.

Moreover, as stressed by De Smet for the domain of syntax, "there is much more that goes into the process of reanalysis than just the two syntactic representations involved" (De Smet 2009: 1730), a statement which can be extended to reanalysis in general. For the case studies presented in section 7, this would involve e.g. other morphologically simple nouns designating subcategories of BIRDS or other prepositions with a temporal meaning (e.g. *durant*, *constant*). More generally, we are never dealing only with isolated expressions for which different interpretations are observed, but the expressions are embedded in a linguistic system, and their usage is determined by the semantics and grammar of the language as well as by general pragmatic factors and principles of communication. These factors also include the relative salience of the different interpretations, aspects of structural markedness of the expressions as well as social aspects affecting the diffusion of the new interpretation.[23] Lower markedness of the new item compared to the conventional item (or, conversely, a "difficulty" or irregularity of the conventional item), a high salience of the new interpretation in the bridging uses, and actualisation and reuse of the new interpretation by socially influential speakers will favour reanalysis. In this sense, strong bridging use exposure cannot be interpreted as a sufficient condition for reanalysis, but can be expected to interact with further factors – precisely because the bridging uses are potentially ambiguous and thus also allow for the conventional interpretation.

With respect to the question raised by Traugott – "how much context the researcher should take into consideration in order to determine whether ambiguity is an issue" (Traugott 2012b: 245) –, the case studies suggest that in some cases, larger amounts of co-text are relevant to the interpretation of the expressions. The amount of relevant co-text should therefore be explicitly discussed for each concrete case study based on analyses of the relevant kinds of uses to be distinguished (CUs, BUs, and NUs). In this sense, the analyses also confirm the necessity to combine quantitative and qualitative analyses, and show the potential of comprehensive approaches that take into account both perspectives.

As to the question "How long do contexts remain relevant in the history of specific constructions?" (Traugott 2012a: Abstract), according to the theoretical framework proposed here it was assumed that further usage of the different types (CUs, BUs, and NUs) will generally remain relevant and should therefore still be counted after the first occurrences of the new item (see also

23 For example, as pointed out by Ricardo Bermúdez-Otero (p.c.), previous findings on phonological change suggest that salience and markedness are more important in this domain than frequencies alone.

Traugott 2012a). This assumption is further substantiated by the notion of entrenchment, which suggests that even after the introduction of a new item, it will not be stably stored in the speakers' linguistic knowledge, but its storage will depend on further exposure and salience.

At the same time, the two case studies have revealed marked differences with respect to the speed of diffusion: whereas for [*poule*] *d'Inde* / *dinde*, bridging uses remain very important over a long period after the introduction of the first new uses, this is not the case for *pendant*, where the proportion of bridging uses quickly decreases after the introduction of the new uses.

Moreover, the social dimension of the diffusion of innovations suggests that innovations will not directly spread to all members of the speech community, as the process of diffusion will strongly depend on factors such as network structures and social prestige of innovative vs. conservative speakers.[24] The first occurrences of an unambiguously new item do not imply that the new item is already shared by the entire speech community. In that sense, when investigating corpus data in order to identify the stage when the new item can be assumed to have become conventionalised, it seems reasonable to require various new uses, ideally by different speakers, and based on different criteria that unambiguously attest that a new linguistic item needs to be assumed (see the morphological, semantic and typographic criteria discussed in section 7).

9 Conclusion

Focusing on the question how reanalysis takes place in speaker-hearer interaction, this paper mainly aimed at reexploring the role of ambiguity in reanalysis and at investigating to what extent the frequency of ambiguous bridging uses can help us to identify scenarios favouring innovation / neoanalysis. I have argued that it is necessary to consistently distinguish between processes at the level of the individual speakers and processes at the level of the speech community. Based on these reflections, I have proposed an approach in which reanalysis is redefined as a basic pattern of change resulting from an innovation scenario of hearer-based neoanalysis combining semasiological and onomasiological ambiguity. Elaborating the notion of bridging contexts and their importance for reanalysis, a distinction between conventional uses, bridging uses and new uses has been introduced, and a two-step

24 See also Traugott (2012a: 236): "[...] deciding to stop counting on the basis of particular example [sic] privileges innovation by an individual over change. Change involves spread within the system and within the community [...]". This statement also underlines the importance of carefully distinguishing between the level of the individual speakers and the level of the speech community (see section 2).

methodology for corpus linguistic investigations of reanalysis based on the notion of bridging use exposure (BUE) has been proposed. The quantitative frequency measure of BUE has been applied to two reanalyses from the history of French. The corpus analyses have confirmed the possibility to operationalise the notion of ambiguous bridging uses in diachronic corpus studies. At the same time, the case studies have shown that new insights into processes of language change can be gained from analyses that combine quantitative and qualitative perspectives. The importance of aspects such as cognitive salience and speaker network structures that has been revealed by the case studies as well provides important perspectives to be pursued in further research.

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Esme Winter-Froemel
JMU Würzburg
Neuphilologisches Institut/Romanistik
Am Hubland
97074 Würzburg
esme.winter-froemel@uni-wuerzburg.de
https://www.neuphil.uni-wuerzburg.de/romanistik/team/winter-froemel/