

Agreement syncretisation as a trigger of null subjects decline in Medieval French

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This paper examines two historical changes in French: the disappearance of null subjects and syncretisation of verbal subject agreement. We present first treebank data which show that there was no temporal lag between the two changes (contra Roberts 2014, Schøsler 2002). This speaks in favour of Taraldsen’s generalisation that rich (i.e. non-syncretic) verbal subject agreement implies the possibility of null subjects, as well as the series of analysis it generated which assume some sort of a licensing relation between a functional head carrying agreement features and null subjects (Taraldsen (1980), Rizzi (1986), Adams (1987), a.o.). However, we also show that the quantitative data are not compatible with an explanation of the co-occurrence of the two changes as a disappearance of two surface manifestations of the same underlying grammatical property. Instead, we propose an analysis in terms of variational learning whereby a series of independent phonological changes led to the emergence of data (ambiguous endings) which disfavoured learning of the null-subject grammar and eventually to its disappearance. Thus a causal, or triggering, relation emerges as the most plausible one.

Results. Our quantitative evaluations are based on data coming from MCVF (2010) and Penn Supplement to MCVF (2010) (texts from X to XVIII cc., $\approx 1,5$ mln words). In order to establish the temporal profile of the changes, we examined the distribution of the binary variable ENDING with values corresponding to the new and old endings for 9 verbal inflection changes registered in written sources. We fitted these 9 datasets to a logistic regression model $P(\text{ENDING} = \text{new} | \text{DATE} = d) = \frac{e^{\alpha + \beta * \text{Date}}}{1 + e^{\alpha + \beta * \text{Date}}}$ plotted on Figure 1 except for one change since the relevant data are too scarce. On the same figure we plotted a model $P(\text{EXPL SBJ} = \text{overt} | \text{DATE} = d) = \frac{e^{\alpha + \beta * \text{Date}}}{1 + e^{\alpha + \beta * \text{Date}}}$ fitted to the set of finite clauses with either overt or null expletive subjects.

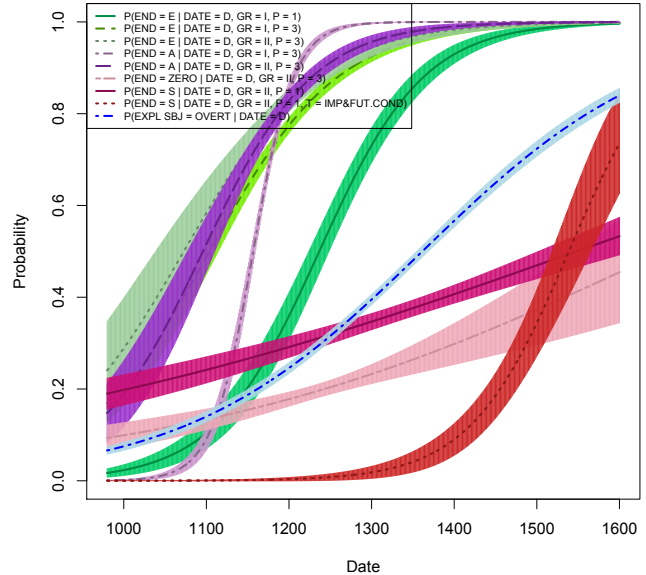


Figure 1. Spread of the new endings and overt expletive subjects

Discussion. Our results show that different endings do not spread in exactly the same fashion as overt subjects. This means that if we assume the Constant Rate Hypothesis of Kroch (1989) (“a grammatical change spreads at the same rate across different contexts”), these data are not compatible with an analysis which treats the emergence of new endings and overt subjects as underlyingly *the same change*. Instead, we adopt a variational learning approach of Yang (2002) (and subsequent works) which assumes that the eventual probabilities of competing grammars to be used by a speaker are a function of their probabilities to fail to parse input data. Treating syncretic endings as a failure context for the null subject grammar, we estimate the failure parameters based on the corpus data and show that the predicted probability of the use of the overt subject grammar closely parallels the observed estimated probability of the use of expletive subjects. We also show that a model which does not take ending ambiguity into account makes the wrong prediction that the null subject grammar will always outdo the overt subject grammar, a welcome result suggesting that a variational learning model is so far the optimal way to cash out the old-standing intuition supported by typological observations about the relation between null subjects and agreement type.

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