# Evolution of Romance Language in Written Communication: Network Analysis of Late Latin and Early Romance Corpora

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Unlike the innovation of new linguistic forms and features, their spread within communities of practice has not been studied systematically so far. This is due to the complexity of language as a multiresolutional system. While approaches to linguistic networks mainly focus on a single layer of linguistic resolution, the co-evolvement of social-semiotic networks, as seen here, always affects the multilayer structure of language. That is, social change affects language change on, for example, the phonological/graphematic, morphological, syntactic, semantic or textual level, which mutually reinforce this change. In this paper, we analyze several corpora of (Late) Latin and Early Romance in order to investigate the co-evolvement of multiple layers of linguistic resolution. More specifically, we analyze lexical change in terms of the co-evolvement of word forms on the one hand and lexemes on the other. Further, both of these levels are related to the syntactic level by taking dependency grammatical structures into account. In this way, we overcome the limits of network models in linguistics that analyze language layers in isolation and, therefore, fail to capture their interdependence. The network analysis presented in the paper is carried out by means of the *Latin Lexical Network* (LLN— `http://www.lexical-network.net/`) that, to date, is the largest accessible network of Latin lexical structures. The LLN has been induced from one of the largest corpora of historical Latin texts, that is, the *Patrologia Latina*, which covers texts of a period of more than 1,000 years. The paper describes the underlying corpus in terms of its quantitative characteristics, the derivation of the LLN from this corpus and the co-evolvement of two lexical layers in conjunction with the syntactic layer.