# Expletive negation: A typological and psycholinguistic investigation 

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In this talk, we explore this hypothesis that expletive negation (EN) is caused by general properties of language production: the meaning of some lexical items (EN-triggers) leads to the concurrent activation of an argument proposition $(p)$ and its dual $(\neg p)$ and this concurrent activation of $p$ and $\neg p$ that causes the erroneous production of not $p$ rather than the intended $p$. This hypothesis predicts that the occurrence of EN should be widespread across languages of the world (linguistic uniformity hypothesis) and that there should be a strong overlap among EN-triggers across languages (trigger uniformity hypothesis). We tested the linguistic uniformity hypothesis by presenting of a survey of the occurrence of EN across languages of the world (722 languages were surveyed overall). We tested the trigger uniformity hypothesis through the compilation of a comprehensive list of EN-triggering contexts in French and Mandarin where EN abounds and the subsequent testing of its similarity to the list of EN-triggers in two understudied languages, Januubi Arabic and Zarma-Sonrai. We found that the same concepts lead to the production of EN in these four languages (belonging to four distinct language families), as predicted by our trigger uniformity hypothesis. Overall, the distribution of EN across many genera (37) and the strong similarity/identity of triggers across languages support our hypothesis that EN is caused by general properties of language production. This hypothesis is further supported by a corpus study that shows that speakers of languages purported not to include EN (English) produce it with some frequency in the same contexts in which they appear in languages where EN is entrenched (French, Mandarin): EN interpretations of negators ranged from almost $0 \%$ to $100 \%$, depending on the trigger; mean $=28.64 \%$. Finally, we report on three semantic interference comprehension experiments that test the hypothesis that the grammar and lexicon of native speakers of English, French, and Mandarin might include a representation of EN in that speakers interpret negators expletively in the complement clauses of EN-triggers to the degree they have experienced such interpretations for particular triggers. We found that EN-trigger continuations elicited less logically accurate answers and longer response time in all three languages. This result suggests that, irrespective of degree of entrenchment, speakers $d o$ interpret negators expletively in the same contexts across languages. More importantly, we also found that logical inaccuracy for EN continuations was correlated with the frequency of EN interpretations in our English and Mandarin corpora, suggesting that the more expletive interpretations of negators for a particular EN-trigger a speaker has encountered, the more likely she is likely to interpret expletively a new occurrence of a negator in the complement clause of that trigger. The correlation between our production and comprehension data suggests that, as predicted, speakers represent the frequency of EN interpretations for individual triggers in their language. Finally, we found that speakers of the three languages differed in their propensity to interpret expletively negators in the scope of EN-triggers. English speakers were less likely to interpret negators expletively than Mandarin speakers (means: $22.5 \%$ vs. $59.5 \%$ ). For French speakers, it depended on the negator. French speakers overwhelmingly interpreted $n e$ (which has been grammaticized to mark EN) expletively ( $82 \%$ ), but they interpreted ne....pas... expletively to roughly the same degree English speakers interpret not expletively ( $29 \%$ ). Altogether, our research shows that "illogical" properties of grammatical systems can be both widespread and be very similar across languages, as long as their occurrence is due to general properties of the production system.

