

Testing split-intransitivity: an experimental investigation of two diagnostics in Italian.

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Introduction: Linguistic theory has long recognized that intransitive verbs should be split into more than one class (Perlmutter 1978). Two of the most prominent theories of split-intransitivity predict different numbers of classes: the Unaccusative Hypothesis (Perlmutter 1978 and Burzio 1986) divides intransitive verbs into two classes (unaccusatives and unergatives) and predicts that split-intransitivity diagnostics will yield a binary split, and the Lexico-Semantic approach (Sorace 2000) divides intransitives into seven categories and predicts that diagnostics will yield a gradient across the categories (Fig 1). Here we present the results of a formal experiment designed to compare these two approaches for 20 verbs in Italian and two classic split-intransitivity diagnostics: *ne*-cliticization (NE; Burzio 1986, Perlmutter 1989, a.o.) and the *absolute small clause* (ASC) diagnostic (Belletti 1990).

Experimental design: for both experiments we selected 20 verbs that span the 7 lexical-semantic categories from the Lexico-Semantic approach, though we collapsed two pairs of categories (one in the middle of each side of the scale) into one category, resulting in 5 total lexical semantic categories (the verbs and categories are visible in Figures 2 and 3). For the NE-experiment, for each verb, we created two conditions: one with *ne* and one without *ne*.

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| (1) | a. Ne telefonano molti, di clienti | b. <i>Telefonano</i> molti clienti |
| | NE telephone many clients | telephone many clients |
| | “Many clients call” | “Many clients call” |

For the ASC-experiment we created two conditions: one with the absolute small clause and one with a tensed clause that paraphrases the meaning of the ASC, while keeping the subjects post-verbal to minimize the structural differences with the ASC construction:

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| (2) | a. Arrivato Gianni , Maria ha cominciato a mangiare | b. Dopo che è arrivato Gianni , ... |
| | arrived Gianni Maria has started to eat | After that is arrived Gianni ... |
| | “Once Gianni arrived, Mary has started to eat.” | “Once Gianni arrived, ...” |

We created 8 tokens of each condition for each verb, and split the verbs among four experiments, each testing 5 verbs (one from each category), mixed with 30 fillers for a 46-item survey. The task was a 7-point rating scale. We recruited 45 native speakers of Italian (in Italy) to participate, and asked them to complete all 4 experiments one week apart.

Predictions: The left most three panels of Figure 1 present three hypothetical outcomes of the experiments. If *ne*-cliticization and ASC are not a diagnostic of split intransitivity, we expect to see the pattern in the left panel. If the diagnostics split verbs into two classes, we expect to see the pattern in the second panel from the left. If the diagnostics instead split the verbs into 5 gradient classes, we expect to see a pattern similar to the third panel.

Results for NE: We z-transformed the results prior to analysis to remove scale bias. The fourth panel of Fig. 1 shows the mean rating for each condition (\pm NE) of each verb category (collapsing over 4 verbs for each category). Though the results do show some gradience with the rightmost two categories showing slightly lower ratings for the +NE condition, it is not the pattern predicted by either approach – both the -NE and +NE conditions are well above the midpoint of the scale (0 in z-scores). This can be further seen in Figure 2, which plots the results for each verb individually, for each condition (in blue and red), and also plots the difference between the two conditions in gray. This difference is the critical effect for the diagnostic. No verbs show +NE below the midpoint, and no verbs show a large effect of the diagnostic. This suggests that NE cliticization is not a diagnostic of split intransitivity.

Results for ASC: The category level results of the ASC-experiment (rightmost panel of Figure 1) show a pattern consistent with the Lexico-Semantic approach. However, if we look at the results for each verb in Figure 3, we see a more complicated picture. First, there is quite a bit of variability in the overall ratings of the verbs in the two conditions, particularly in the rightmost three categories. This alone could give the appearance of gradience, especially if one were to focus only on one condition, without comparing it to a control condition. Second, and perhaps crucially, there appears to be two effect sizes (gray bars): verbs that show little to no difference between the two conditions, and those that show a large difference between the two conditions. This suggests that the gradience in Figure 1 is due to mixing verbs of two categorical types, not due to true gradience. This in turn suggests that ASC is a diagnostic for split-intransitivity, and it yields two categories. **Conclusions:** These results suggest that NE is not a diagnostic for split-intransitivity, and that ASC appears to yield a binary split among verbs, in accordance with the Unaccusative Hypothesis. These results also demonstrate the importance of looking at the details underlying seemingly gradient results – in this case, at a lexico-semantic category level, the ASC appears to yield gradient results, but we see that this is driven by averaging two types of verbs together in different proportions within the categories.

Figure 1: The predicted (left three panels) and actual (right two panels) results of our experiments.

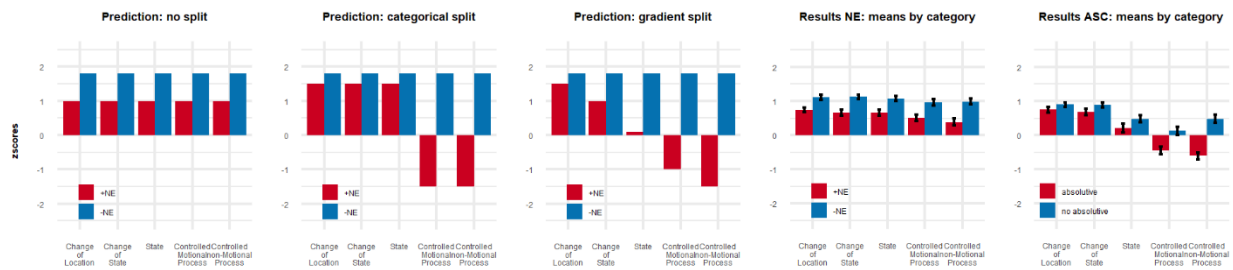


Figure 2: The results of NE-experiment for each verb individually (arranged by category).

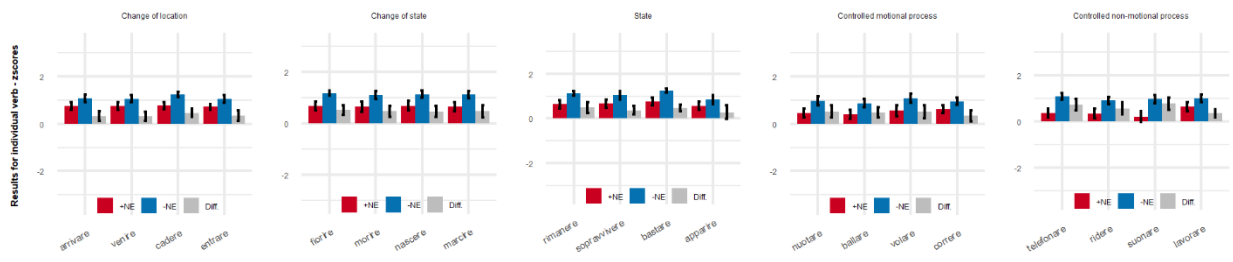


Figure 3: The results of ASC-experiment for each verb individually (arranged by category).

