How are words represented in the brain? Is lexical knowledge explicitly organised in terms of grammatical categories? Some neuropsychological and neuroimaging studies (Perani et al., 1999; Damasio et al., 1993) suggest that distinct neural substrates underlie the representation of nouns and verbs, with verbs being associated with LIFG and nouns with L temporal cortex. However, other studies argue against neural specialisation (Warburton et al., 1996; Tyler et al., 2001). We have suggested that these inconsistencies may reflect interactions between the internal [morphological] structure of nouns and verbs and the implications this has for processing, rather than differences in their neural representations [Tyler et al., 2003]. We tested this hypothesis in two studies – using erfMRI and blocked designs - where subjects were scanned [3T] while performing a valency judgement on visually presented unambiguous nouns and verbs, presented as both stems [snail, hear] and inflected forms [snails, hears]. Based on our previous studies, we predicted that activations for noun and verbs stems would not differ, whereas inflected verbs would generate more activation in LIFG than inflected nouns. Preliminary analyses [SPM99, random effects model] revealed an interaction between word class and inflection in LIFG (BA 45) in both studies. The simple main effects analyses showed that the interaction was driven by an enhanced response of the LIFG (BA 45) to verb inflections. These results support the claim that form-class is not a first order organising principle underlying the neural representation of words, but that it interacts with processes that operate over lexical representations.