themselves. Therefore, naming is not as pure of a measure as had previously been assumed. The present work will investigate what happens to the frequency effect when the items are either sped up or slowed down. The results of human data will be supplemented by the results of Monte Carlo simulations to extend the Lupker et al. (1997) findings, and to modify the deadline model that they had put forth to account for their results.

- **PSYCHOLINGUISTICS** -

(304) Conceptual Access in Bilingual Translation. NATASHA TOKOWICZ & JUDITH F. KROLL, Pennsylvania State University—Most models of bilingual representation assume that words in the two languages access the same meaning. However, the observation that some types of concepts are translated more quickly than others suggested that word meaning is only partially shared across languages (De Groot, 1992). In the present study, we examined the effects of two aspects of concept representation on bilingual translation: word concreteness and number of translations. In Experiment 1 we failed to replicate past findings of a concreteness effect in bilingual translation using words that primarily had a single translation equivalent. In Experiment 2 we found that the time to translate concrete words was uninfluenced by the number of translation equivalents, whereas the time to translate abstract words was longer when additional translation equivalents were available. The implications of these results for models of bilingual language processing will be discussed.

(305) On the Road to Two Routes: Accessing Gender in Spanish. TAMAR H. GOLLAN, University of California, San Diego, MANUEL PEREZA, University of Valencia, AARON BAUER, University of California, San Diego (sponsored by Manuel Perea) — We assessed the ability of native Spanish speakers to access the grammatical gender of transparently marked (e.g., casa) and opaque (e.g., leche) nouns, and compared subjects with extended immersion in a primarily Spanish speaking environment (Spaniards) to those immersed in a primarily English speaking environment (Latin Americans). Both subject groups demonstrated strong effects of gender marking transparency. However, the Spaniards also showed a robust word translation with word frequency, whereas the Latin Americans demonstrated much less evidence of lexical influence. A further difference between groups was that the Latin Americans (but not the Spaniards) demonstrated a robust gender by transparency interaction, suggesting greater reliance on a nonlexical route to gender. Untimed word translation and gender decisions also suggested that the acquisition of word meaning precedes the acquisition of grammatical gender. We interpret these findings within a framework based on dual-route and connectionist interpretations of the frequency by regularity effect previously discussed in the word recognition literature.

(306) Working Memory and Writing: How Do They Relate? LUCILE CHANQUOY, Université de Montpellier, & GUY DENHIERE, Université de Provence and CNRS—This research analyzed the relations between working memory spans and several writing tasks in third and fourth graders. First, working memory spans were measured with three tests: a reading span test, a speaking span test, and a writing span test. Second, writing measures were obtained through four tasks: two narrative texts to write down, and a dictation and grammar exercises. For these tasks, the dependent variables were the number of words and clauses, a measure of quality, and a percentage of errors. For both levels, significant correlations between working memory spans and written measures appeared. The stronger correlations were noticed between reading spans and narrative measures. Precise relationships between working memory spans and the quality of writing also clearly appeared. The increase of the working memory span and/or the automatization of some writing processes would therefore be linked to an increase in writing expertise and, thus, quality.

(307) Sequential Activation Processes in Producing Words and Syllables: Evidence From Picture Naming. JULIO SANTIAGO, Universidad de Granada, DONALD G. ADVOCAY, UCLA, ALFONSO PALMA, Universidad de Granada, & CHRISTINE RHO, UCLA (sponsored by Deborah M. Burke)—This study examines picture naming latencies for predicted effects of two word retrieval factors: onset complexity and number of syllables. In Experiment 1, naming latency was longer for concrete words with two syllables (e.g., duck) and duck, and longer for words beginning with consonant clusters (e.g., drill) than single consonants (e.g., duck). Experiment 2 replicated these results and showed that vowel nucleus and coda complexity did not interact with onset complexity and did not affect naming latency. Moreover, effects of onset complexity and number of syllables were additive and unrelated to word frequency, articulatory factors, or picture complexity. These results comport with evidence from speech errors and metalinguistic tasks and with predictions of the node structure theory of language production, but do not support production theories that do not predict special processing difficulty for words with complex onsets and multiple syllables.

(308) ERP and RT Evidence for Inhibition Between Alternative Meanings of Ambiguous Words. DOROTHEE J. CHWILLA & HERMAN H. J. KOLK, Nijmegen University NICI (sponsored by Wido La Heij)—We investigated the effects of multiple primes that converged onto the same semantic representation (e.g., LION–STRIPES–TIGER) or diverged onto different semantic representations (e.g., KIDNEY–PIANO–ORGAN). Balota and Paul (1996) showed that inhibition of alternative meanings of ambiguous words only occurs if participants are “forced” to select one meaning of the ambiguous word. In a relatedness judgment task, we replicated their RT inhibition effect and extended this inhibition effect to ERPs. Inhibitory facilitation was only observed when picture name and distractor word did not have the same gender, whereas for ERPs, an overadditive priming pattern was observed. The fact that the ERP inhibition effect was more robust in a relatedness judgment task than in lexical decision (Chwilla & Kolk, 1998) indicates that readers have at least some control about a given processing pathway (lexical vs. semantic).

(309) Gender Interference in Speech Production: The Case of German. NIELS O. SCHILLER & ALFONSO CARAMAZZA, Harvard University—Two picture-word interference experiments investigated the role of grammatical gender in noun phrase production in German. In the first experiment, participants named pictures in the singular or in the plural with their determiners. Naming latencies were longer when picture name and distractor word did not have the same gender than when they agreed in gender. However, this was only the case in the singular, where different determiners mark the different genders, but not in the plural, where all three genders take the same determiner. Therefore, the interference may occur at the level of determiner selection, rather than at the level of gender selection. This hypothesis was confirmed in a second experiment in which adjective–noun phrases were produced. Picture naming latencies were just as long when picture name and distractor word had the same gender than when they had different genders, both in the singular and in the plural.

(310) Gender and Number Agreement in Sentence Comprehension in Spanish. MANUEL CARREIRAS & ENRIQUE MESEGUIER, Universidad de la Laguna—An experiment examined the processing of subject–verb agreement in sentence comprehension in Spanish. Eye