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## ASPECTUAL MAKE-UP MODULATES ADAPTATION TO RELATIVE CLAUSE PARSE

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A strong result in the literature on sentence processing is that the parser consistently avoids a Relative Clause (RC 1a,2a) parse whenever possible (see [1,2] for recent results involving different types of clausal complementation). Restrictive RCs denote properties of individuals: this property is ascribed to the referent of the DP they modify but not to other elements in a contrast set, allowing its unique identification within that set. RC-avoidance is thus reduced or completely eliminated when a contrast set is provided by either felicitous discourse context [3,4,5] or by the presence of focus operators such as *only* [6]. Relatively little attention was paid to factors promoting building a property out of a sentence. We focus on grammatical aspect, and in particular on the availability of a habitual reading of the RC-predicate. We argue that habits are more readily converted into properties than punctual events: *John is a runner* obtains more naturally from the habitual *John (always) runs* than from the progressive *John is running*. In support of this hypothesis, and adding to a growing literature on adaptation [7,8,9,10], we report selective learning effects in the resolution of RC-attachment ambiguities: Spanish speakers more readily adapt to a RC parse when a habitual reading is available.

**Background.** A number of recent offline and online studies have shown that RC are also avoided whenever the alternative Pseudo Relative (PR, 1b) parse is available [2,11]. RCs containing *imperfective* or *progressive* aspect and appearing in the complement position of perceptual (but not stative) verbs in Spanish can be interpreted as PRs, which denote an event and roughly correspond to an eventive Small Clause in English (2b):

- (1) a. Vi [<sub>DP</sub> al [<sub>NP</sub> chico [<sub>RC</sub> que (siempre) corría]]]      b. Vi [<sub>PR</sub> al chico que corría (\*siempre)]]  
 (2) a. I [<sub>V</sub> saw [<sub>DP</sub> the [<sub>NP</sub> boy [<sub>RC</sub> that (always) ran]]]]      b. I [<sub>V</sub> saw [<sub>SC</sub> the boy running (\*always)]]]

Previous results consistently show that PR-availability has a significant impact in the resolution of RC attachment ambiguity [2]: High Attachment (HA) occurs when PRs are available and Low Attachment (LA) otherwise (provided that other factors are controlled for, e.g. Prosody). We add to this literature by showing that this effect is susceptible to learning effects and that adaptation and learning are modulated by the aspectual make-up of the sentence.

**Experiment.** We contrast the processing of ambiguous RCs in past imperfective with past progressive. Spanish *imperfective* is ambiguous between simple past and the habitual reading. This ambiguity is not readily available with past progressive, which more easily describe punctual events. Crucially, habituales are not compatible with PRs in Spanish.

**Method:** 80 native Spanish speakers participated in a RC-attachment questionnaire. We manipulated VERB TYPE (*perceptual* vs. *stative*) of the matrix sentence and ASPECT (*imperfective* vs. *progressive*) of the embedded clause (Table 1). In line with previous results, we predict higher proportion of HA preference with perceptual (PR-compatible) than with stative (PR-incompatible) verbs. We also predict *selective adaptation* to the high ratio (1:2) of unambiguous RCs in the experiment, observable as a stronger increase in overall proportion of Low Attachment choices for imperfective than progressive aspect with perceptual verbs.

**Results:** We observed a strong effect of VERB TYPE on attachment (z-value=-8.676, p<.0001), with more HA for perceptual than stative. A 3-way interaction between VERB TYPE, ASPECT and HALF (first vs. second half of the experiment) for perceptual-imperfective sentences (z-value=-3.804, p=.0001) but not for perceptual-progressives (z-value=-0.982, p=0.32) show that the effect is susceptible to selective learning effects.

VERB TYPE	ASPECT	Sample Sentence	<i>Table 1: example of sentence stimuli</i>
<i>Perceptual</i>	<i>Imperfective</i>	a. Juan vio al asistente del médico que leía el periódico. <i>John saw the assistant of the doctor that read the newspaper.</i>	
<i>Perceptual</i>	<i>Progressive</i>	b. Juan vio al asistente del médico que estaba leyendo. <i>John saw the assistant of the doctor that was reading.</i>	
<i>Stative</i>	<i>Imperfective</i>	c. Juan vive con el asistente del médico que leía el periódico. <i>John lives with the assistant of the doctor that read the newspaper.</i>	
<i>Stative</i>	<i>Progressive</i>	d. Juan vive con el asistente del médico que estaba leyendo. <i>John lives with the assistant of the doctor that was reading.</i>	

**References** [1] Staub et al. 2018; [2] Grillo & Costa 2014; [3] Crain & Steedmann 1985; [4] Altmann & Steedman 1988; [5] Trueswell et al., 1999; [6] Ni et al 1996; [7] Clayards et al. 2008; [8] Kamide 2012; [9] Fine et al. 2010,2013; [10] Fernandes et al 2018, *CUNY*. [11] Grillo et al. 2015a (*Cognition*), 2015b (*CUNY*).