

## Factive islands in nanosyntax

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**General claim.** Factive verbs (*regret*, *remember*) select complements clauses that are presupposed to be true; non-factive verbs (*believe*, *want*) don't (Kiparsky&Kiparsky (K&K)1971). Long-distance extraction out of factive complements create **Weak Islands (WI)**, with only argument extraction being possible (Rizzi 1990, Rooryck 1992 a.o). One general approach in the literature is that the embedded CP is actually different in case of factive constructions (K&K 1971, Rizzi 1990, de Cuba&Urogi 2009, Haegeman&Urogi 2010, a.o). In addition to WIs, Romance and South Slavic (SSl) factive constructions may also involve **Strong Islands (SI)**, when both arguments and adjuncts are banned for extraction). On the basis of Romance (French, Italian) and SSl (Serbian, Croatian, Bulgarian), we claim that this is basically correct. More precisely, we claim that three features are responsible for the island effects observed; normally these features are spelled out as a comp(lementizer), but sometimes they can be split between the matrix verb and the comp, with consequences for lexicalization.

**Data.** In (1) it is seen that 'remember' + *deto* in Bulgarian (Bg.) yields SI effects (incompatible with both argument and adjunct extraction), whereas 'remember' + *če* yields WI effects (compatible with argument extraction but not adjunct extraction).

- (1) a. Koji pomniš,            **če/??deto**    sreštna na pazara?  
      who remember.2SG that            met.2SG at the market  
      b. \*Kogai pomniš,            **če/deto**    sreštna Maria na pazara?  
      when remember.2SG that            met.2SG M. at the market

In French (2) the same effect is seen with 'understand' + IND (SI effects) and 'understand' + SUBJ (WI effects).

- (2) a. Quelle voiture il comprend            que Marie **ait/\*a** acheté rapidement?  
      which car        he understands/realizes that M. has.SUBJ/IND bought quickly  
      b. \*Comment est-ce qu'il comprend    que Marie **ait/a**            acheté la voiture ?  
      How            Q            he understands that M.        has.SUBJ/IND bought the car

These alternations also correlate with a change of meaning in the main predicate. In Serbian Torlakian (3), *što* triggers a strong emotive reading of *žaliti* 'regret' (with an experiencer subject, like Eng. *feel bad* or *feel sorrow*), which is less prominent with *da* (which yields something like Eng. *regret (to inform)*). In French (4), *comprendre* + SUBJ implies a more empathic subject ( $\approx$  Eng. *understand*) than with *comprendre* + IND ( $\approx$  Eng. *realize*). We refer to these types as *emotive factives* vs. *cognitive factives*.

- (3) Žalim            **što/da**    si            povrijedio            Ivana.  
      Regret.1SG that        AUX.past.2SG hurt.PAST.PART John  
      'I feel bad/regret to inform you that you hurt John.'

- (4) a. *Because he is such an understanding guy,*  
      il comprend    que Marie **ait**            acheté une voiture rapidement.  
      he understands that M.    has.SUBJ bought a    car        quickly [emotive factive]  
      b. *After two hours of explanation,*  
      il comprend que Marie **a**            acheté une voiture rapidement (*he is so slow*)  
      he realizes        that Maria has.IND bought a    car        quickly [cognitive factive]

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The verbal typology is even more complex than this. Verbs like ‘dream’, for instance, can be cognitive (triggering embedded IND in Romance) or emotive (triggering SUBJ). As implied by our Table 1, we view these facts in terms of syncretism.

<b>Table 1</b>	Non-factive	Factive (FACT)
Sentient (F1)	<i>dire</i> ‘say’...	<i>savoir</i> ‘know’...
Cognitive (F2)	<i>rêver, penser...</i> ‘dream’, ‘think’	<i>comprendre, déplaire, réaliser, se souvenir...</i> ‘understand’, ‘displease’, ‘realize’, ‘remember’
Emotive (F3)	<i>vouloir, rêver...</i> ‘want’, ‘dream’	<i>comprendre, déplaire, regretter, être content...</i> ‘understand’, ‘displease’, ‘regret’, ‘be happy’
Cause (F4)	<i>ordonner</i> ‘order’...	

**Background.** We adopt the nanosyntactic idea that morphemes are internally complex and composed of syntactico-semantic features which are hierarchically ordered according to a functional sequence (fseq). Hence comps and verbs are complex morphemes, lexicalizing structures of different sizes. In (5), Part(itive) comps range over (a given set of) propositional variables (‘true’ or ‘false’) and Spec(ific) comps have the property of locating the complement proposition with respect to a given point of reference, binding a single propositional variable, which corresponds to a single truth value (‘true’) (cf. Roussou 2010).

(5) Comp fseq : Specific > Partitive > *c*

(6) Verb fseq : Cause (F4) > Emotive (F3) > Cognitive (F2) > Sentient (F1)

**Analysis.** Spec and Part comps are selected only by factive predicates. Spec comps are the largest and trigger SI effects; Part comps are medium-sized and trigger WI effects. Non-factive matrix predicates, on the other hand, must select the bare (*c*) comp. Bulgarian, Serbian Torlakian, and Croatian lexicalize these structures as in (7).

(7)	<i>c</i>	No Island	Bg. <i>da</i>	ST <i>da</i>	Cr. <i>da</i>
	Part > <i>c</i>	Weak Island	Bg. <i>če</i>	ST <i>što</i>	Cr. <i>što</i>
	Spec > Part > <i>c</i>	Strong Island	Bg. <i>deto</i>	ST <i>što</i>	Cr. <i>to</i> + <i>što</i>

Now, combining the two sequences in (5) and (6) yields (8).

(8) F4 > F3 > F2 > F1 (> FACT) > Spec > Part > *c*

In Croatian, *da* is the bare comp selected by non-factives and not expected to cause any island effects, but it sometimes surfaces in a WI context with a factive matrix predicate. Our proposal is that Part, which leads to the WI, is packaged on the matrix verb, leaving only *c* to be lexicalized by *da*. Thus the syntactic features necessary for WI effects are present but lexicalization obscures this fact.

(9) {*žaliti* = F3 F2 F1 FACT Part} + {*da* = *c*}      WI

One of the few contexts in Croatian in which SI effects are observed is similar to English \*Which article did you regret *it that* I had selected? As discussed, SI effects are due to the full structure Spec > Part > *c*. Since the main verb does not contain Spec in its lexical entry, Spec must be lexicalized by something else, namely *to* ‘it’, which leaves Part and *c* to be spelled out by *što*, as shown in (10).

(10) {*žaliti* = F3 F2 F1 FACT} + {*to* = Spec D} + {*što* = Part *c*}      SI

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The lexical entry for *žaliti* is at least [F3 F2 F1 FACT Part] (9); with *što*, a subset of this feature set is spelled out (10). The lexical entry for *to* is [Spec D]; interestingly, in comp *š-to*, *to* seems to spell out D only (shrinking), i.e. *š-* = [Part c] + *to* = [D].

**Conclusion.** Our analysis accounts for factive islands in Romance and SSL. In both cases, comp is responsible for the blocking effect, but features of the comp-fseq can also be absorbed on the matrix verb, with lexicalization effects on comp.