Journal of Linguistics (2025), 1–36
doi:10.1017/S0022226724000409

Journal of Linguistics
CAMBRIDGE UNIVERSITY PRESS

RESEARCH ARTICLE

Feature reassembly and meso-parameters versus interpretability: From inconsistent null subjects in L1 Hebrew to no null subjects in L2 English[1]

Noa Brandel

University of Cambridge
Email: nb769@cam.ac.uk

Received: 09 January 2023; **Revised:** 23 October 2024; **Accepted:** 20 October 2024

Keywords: feature reassembly; interpretability; meso-parameters; null subjects; second language acquisition

Abstract

This paper reports the results of a cross-sectional study investigating the acquisition of the syntactic properties associated with the null subject (meso-)parameter in English as a second language (L2) among Hebrew-speaking youngsters (18-year-olds). The two languages differ concerning these properties, with Hebrew allowing null subjects and related properties (although inconsistently) and English disallowing these properties altogether. One hundred four intermediate learners and 97 English-speaker controls provided grammaticality judgments and corrections concerning constructions involving expletive and referential null subjects, post-verbal subjects, and complementizer-trace sequences. The results reveal limited evidence for transfer from the learners' mother tongue (first language [L1]) and indicate that learners have met the native standard concerning null and post-verbal subjects. These findings support both the meso-parametric view of cross-linguistic variation and feature reassembly on functional heads in L2 acquisition, while partially rejecting the Interpretability Hypothesis. Learners nevertheless deviate from the native standard concerning complementizer-trace sequences. This finding is unaccounted for by the meso-parametric approach, feature reassembly, or interpretability, but can instead be attributed to L1 transfer. Controls also demonstrate variability concerning complementizer-trace sequences, suggesting that the performance of all participants regarding this configuration is affected by processing difficulties, lower frequency in the input, and methodological issues with the items and/or the task.

The null subject (meso-)parameter (NSP) has been widely investigated in second language (L2) acquisition (see reviews in White 1989; Towell & Hawkins 1994; Sauter 2002; Prentza 2010). Two main scenarios have been documented: (i) speakers of first languages (L1s) enabling null subjects (NSs) who acquire L2s disallowing NSs and (ii) speakers of

[1] The following abbreviations are used in the glosses: 1 = first person, 2 = second person, 3 = third person, ACC = accusative, DEM = demonstrative, FUT = future, NEG = negation, PL= plural, PRS = present, PST = past, PTCP = participle, SG = singular.

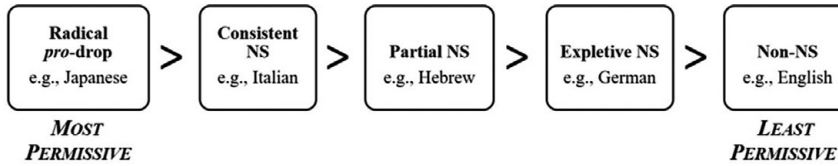

Figure 1. Language types according to subject omission.

L1s disallowing NSs who acquire L2s enabling them. Languages allowing NSs were later reanalyzed as a quadripartite set, varying in the extent to which they permit subject pronoun omission (Roberts & Holmberg 2010; Camacho 2013; Roberts 2019). Those are presented in Figure 1, along with the non-NS type, and all five language types are ordered from most to least permissive concerning subject omission (see Roberts & Holmberg 2010, Camacho 2013, and Roberts 2019 for more details).[2]

Under this hierarchy, scenario (i) referred to above involves mainly learners coming from radical *pro*-drop and consistent NS L1s who acquire non-NS and expletive NS L2s (e.g. White 1985, 1986; Tsimpli & Roussou 1991; Clahsen & Hong 1995; Davies 1996; Prentza 2010, 2014a,b), while scenario (ii) generally involves learners coming from non-NS and expletive NS L1s acquiring consistent NS and radical *pro*-drop L2s (e.g. Liceras 1988, 1989; Liceras, Diaz & Maxwell 1999; Belletti & Leonini 2004; Montrul & Rodríguez-Louro 2006; Belletti, Bennati & Sorace 2007; Kizu 2013). However, partial NS languages are extremely understudied in this context, either as L1s (but see Brandel 2014, 2018; Alsaedi 2017) or as L2s (but see Dal Pozzo 2015). The current study addresses this gap, incorporating a partial NS language (Hebrew) as an L1.

The focus on both NSs and related properties in the context of L2 acquisition further enables the inspection of theories of cross-linguistic variation, such as the meso-parametric view (Biberauer & Roberts 2015; Roberts 2019). The latter attributes cross-linguistic variation to micro-parameters (i.e. formal features associated with functional heads; e.g. Kayne 2005) that can be aggregated under a single meso-parameter to increase computational efficiency (Biberauer & Roberts 2015; Roberts 2019). If data from both L1 and L2 learners demonstrate a relation between micro-parameters arguably aggregated under a meso-parameter, they can lend support to the meso-parametric view.

Finally, the inspection of several properties enables the juxtaposition of L2 minimalist accounts: the Feature Reassembly Hypothesis (Lardiere 2008 et seq.) and the Interpretability Hypothesis (Tsimpli & Dimitrakopoulou 2007). The Feature Reassembly Hypothesis holds that functional features can be reassembled since Universal Grammar (UG) is accessible in L2 acquisition. Learners can thus reconfigure features inherited from their L1, adding or subtracting features from feature bundles constituting the L2 functional categories. In contrast, the Interpretability Hypothesis contends that uninterpretable (formal) features are inaccessible to L2 learners unless already instantiated in their L1. Hence, this hypothesis advocates partial UG access at best. These two hypotheses thus concern queries of L1 transfer, access to UG, and the nature of the difference between L1 and L2 acquisition.

[2] The characteristics of the language types involved in the current study are elaborated below.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Very few NSP-related L2 studies rely on Minimalist assumptions (but see Prentza 2010, 2014a,b), and, to my knowledge, no NSP-related L2 study adopts the meso-parametric view. This gap is addressed too, illustrating how the meso-parametric proposal can be tested in L2 acquisition, alongside the inspection of hypotheses that are specific to L2 acquisition.

1. Setting the stage

1.1. Universal Grammar and meso-parameters

The study adopts the hypothesis that humans are born with an innate faculty referred to as UG, which guides the process of L1 acquisition (Chomsky 1981a,b, 1986). In earlier literature, UG consists of principles – invariant rules expected to appear cross-linguistically – and parameters – rules whose values are set following exposure to the input of the specific language being acquired. Parameter values are ideally binary (i.e. can be set to Yes/No), and initial values may be underdetermined or default (unmarked). It is further suggested that once a parameter value is set, a cluster of syntactic properties associated with the set value is acquired (Chomsky 1981a; Rizzi 1982).

Under the Minimalist Program (e.g. Chomsky & Lasnik 1993; Chomsky 2001), UG is reduced to phonological, semantic, and functional/formal features, alongside basic computational operations. Features are INTERPRETABLE if they play a role in the phonological/semantic interpretation and UNINTERPRETABLE if they only drive the syntactic derivation (e.g. Pesetsky & Torrego 2007). Inter-language variation is attributed to the feature composition of functional categories/heads (e.g. Borer 1984). Under this proposal, parameters are viewed as micro-parameters (e.g. Kayne 2005), liable to become single – not clustered – properties. In parallel, macro- or meso-parameters coalescing clusters of properties are arguably rendered insufficient (e.g. Newmeyer 2004; Boeckx 2014; cf. Roberts's 2019 review). First, parameters' almost exponential proliferation does not cohere with the explanatory adequacy originally defined in Chomsky (1964). If children are required to set too large a number of parameters during L1 acquisition, they cannot account for this fast and efficient process. Second, parameters fail to capture typological variation accurately, as very few parameters generalize to a large number of languages. Lastly, various computer implementations of triggering models fail to acquire a significant number of learnable grammars and to acquire grammars in the face of (even a small amount of) noise (see Yang 2002 and references within).

However, some linguists argue for the persisting relevance of macro- or meso-parameters in predictions concerning cross-linguistic property distribution (e.g. Baker 2008; Huang 2014; Huang & Roberts 2017). Moreover, Snyder (2007) and Roberts & Holmberg (2010) criticize the methodological choices that have led researchers to declare the hitherto search for (macro/meso)-parameters as fruitless. They argue that researchers have focused on superficial properties clustering together while actually trying to unveil more abstract points of parametric variation.

Thus, Biberauer & Roberts (2015, 2017) and Roberts (2019), among others, propose a refinement – rather than abandonment – of the original notion of parameters, rejecting a view where only micro-variation exists. They distinguish MICRO- from MESO-PARAMETRIC variation. The former concerns formal features associated with functional categories, while the latter

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

refers to several micro-parameters (functional heads) aggregated under a single meso-parameter for computational efficiency.[3]

This combination of micro- and meso-variation seems to serve the explanatory adequacy. A micro-parameter is acquired once the relevant functional category is acquired, then instigating the acquisition of related micro-parameters clustered under the same meso-parameter. This proliferation effect derives not from a specified UG but rather from an acquisition strategy to set parameters as efficiently as possible (Roberts & Holmberg 2010). The current study inspects this view, focusing on a specific meso-parameter: the NSP.

1.2. The null subject (meso-)parameter

The NSP originally distinguished NS languages (e.g. Italian; (a)-examples) from non-NS ones (e.g. English; (b)-examples; Chomsky 1981a; Rizzi 1982). However, NS languages were later split into four NS language types, including e.g. consistent NS languages (like Italian) and partial NS languages (like Hebrew; examples (c) and (d); Roberts & Holmberg 2010; Camacho 2013; Roberts 2019). The NSP property cluster identified by Rizzi (1982) includes the licensing of referential (1) and expletive pronominal NSs (2), post-verbal subjects (3), and complementizer-trace sequences (i.e. lack of complementizer-trace effects; (4)).

(1) Referential pronominal subject omission

(a) **(Io/Lei)** ho /ha dormito. (Italian; consistent NS)
I/he have.1SG.PRS /have.3SG.PRS sleep.PTCP
'I/He slept'.

(b) ***(I/He)** slept. (English; non-NS)

(c) **(ani)** yašanti. (Hebrew; partial NS)
I sleep.1SG.PST
'I slept'.

(d) ***(hu)** yašan.
he sleep.3SG.PST
'He slept'.

(2) Expletive pronominal subject omission

(a) Fuori **(*ciò/esso)** pioviggina /fa freddo. (Italian; consistent NS)
outside it drizzle.3SG.PRS /do.3SG.PRS cold
'It is drizzling/cold outside'.

(b) ***(It)** is drizzling/cold outside. (English; non-NS)

(c) **(*ze)** metaftef ba- xuc. (Hebrew; partial NS)
it drizzle.3SG.M.PRS in.the- outside
'It is drizzling outside'.

(d) **(??ze)** kar ba- xuc.
it cold.SG.M in.the- outside
'It is cold outside'.

[3] Biberauer & Roberts (2015, 2017) and Roberts (2019) offer a four-way taxonomy of parameters, including MACRO-PARAMETRIC and NANO-PARAMETRIC variation as well. See Biberauer & Roberts (2015, 2017) and Roberts (2019) for details.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

(3) Post-verbal subjects[4]

(a) È arrivato /Ha starnutito
be.3SG.PRS arrive.PPRT /have.3SG.PRS sneeze.PPRT
Gianni. (Italian; consistent NS)
Gianni
'Gianni arrived/sneezed'.

(b) *Arrived/Sneezed **John**. (English; non-NS)

(c) higi'u **anašim**. (Hebrew; partial NS)
arrive.3PL.PST people
'People arrived'.

(d) *hit'atšu **anašim**.
sneeze.3PL.PST people

(4) Complementizer-trace effects

(a) (i) Chi$_j$ credi **che-t$_j$** verrà? (Italian; consistent NS)
who think.2SG.PRS that come.3SG.FUT
'Who do you think will come'?

(ii) Chi$_j$ non sai **se t$_j$** verrà? (Italian; consistent NS)
who NEG know.2SG.PRS if come.3SG.FUT
'Who don't you know if s/he will come'?

(b) (i) *Who$_j$ do you think **that t$_j$** will come? (English; non-NS)

(ii) *Who$_j$ don't you know **if t$_j$** will come?

(c) mi$_j$ ata xošev **še-t$_j$** yitpater?[5] (Hebrew; partial NS)
who you.SG.M think.SG.M.PRS that resign.3SG.M.FUT
'Who do you think will resign'?

(d) *mi$_j$ ata lo yode'a **im t$_j$** hitpater?[6]
who you.SG.M NEG know.SG.M.PRS if resign.3SG.M.PST

Note that Hebrew referential NSs are limited to first/second persons and past/future tenses (cf. (1c, d); e.g. Vainikka & Levy 1999; Shlonsky 2009).[7] Moreover, Hebrew post-verbal subjects are limited to verbs lacking an external argument (unaccusatives/passives, cf. (3c, d); Shlonsky 1997), and usually, to indefinite subjects (Diesing 1992).[8] Hence, such subjects seem to be licensed by the lack of interpretable features such as agentivity (e.g. Embick 2004).

[4] The examples in (3a) are taken from Cardinaletti (2018: 81 ex. (2b, c)).

[5] Extraction is allowed after *še-* 'that' and disallowed after *im* 'if' with all verb types – spanning unergatives, transitives, and unaccusatives.

[6] Extraction out of *if*-clauses is generally possible in Hebrew (Shlonsky 1990).

[7] Hebrew allows embedded anaphoric third-person NSs. Earlier literature reports them to be allowed in past/future tenses (Borer 1989), but more recent research (Landau 2004; Shlonsky 2014) limits them to subjunctive environments (namely, in future tense, as complements of directive and commissive verbs concerned with requests, orders, proposals, etc.) or adjunct clauses (in past tense). Nevertheless, the latter often belong to a higher, written register and are seldom used in spoken language (as acknowledged by Shlonsky himself).

[8] Hebrew allows post-verbal subjects with unergative and transitive verbs, as well as with definite subjects, only in a higher, written, register, when a preposed XP is involved (i.e. triggered inversion, Shlonsky & Doron 1992), as seen in (i):

(i) maxar yaxin **dani** aruxa le-mišpaxt-o.
tomorrow prepare.3SG.M.FUT Danny a.meal to-family- his
'Tomorrow Danny will prepare a meal for his family'.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Observations that children aged 2.0–3.0 omit subjects even in non-NS languages (e.g. English in Bloom 1990; French in Weissenborn 1991, inter alia) have led researchers to argue that subject omission is the unmarked (default) value for the parameter (e.g. Hyams & Wexler 1993). Indeed, subject omission seems to be the unmarked option cross-linguistically, based on the World Atlas of Language Structures. Roberts (2019) reports that 437 languages out of 711 (61.5%) allow subject omission, while only 82 languages (11.5%) disallow it (the rest are mixed in their omission patterns; Dryer 2013: Map 101, Expression of pronominal subjects).

1.2.1. Syntactic analysis

Biberauer & Roberts (2015, 2017) and Roberts (2019) relate the NSP properties to two functional heads: (i) T(ense), which concerns the 'richness' of agreement and (ii) D(etermi-ner), which concerns the 'richness' of the article/clitic system. Formally, 'richness' correlates with the presence of φ-features (agreement features such as person, number, and gender) and a D-feature. On T, a D-feature entails a full specification of person and number, while on pronouns, it is linked to definiteness.

NSs are derived via incorporation into T: When the goal's (pronoun's) features are included in those of the probe (T), the pronoun can delete under feature identity with T, via copy deletion in a chain headed by T (reverberating Platzack 2004). In contrast, when the pronoun's features are not subsumed under T's features, goal incorporation (namely, an NS) is rendered impossible. If T bears a D-feature, as suggested for consistent NS languages like Italian, only DP (Determiner Phrase) pronouns, which bear a D-feature, can incorporate into T, while φP pronouns, which lack a D-feature, cannot (this distinction between pronoun types is proposed in Déchaine & Wiltschko 2002 et seq.). In contrast, if T bears no D-feature, as suggested for non-NS languages like English and partial NS languages like Hebrew, DP pronouns cannot incorporate into T, while φP pronouns can. Adopting Holmberg's (2010) proposal, Roberts (2019) argues that, in partial NS languages, embedded third-person referential φPs raise to Spec.TP (specifier of the Tense Phrase) to inherit their reference from a higher definite DP [possibly via C (complementizer); see Landau 2015], while first/second-person referential φPs – whether embedded or not – raise to Spec.TP to inherit their reference from a speaker/addressee feature in the left periphery. In partial NS languages, then, null referential pronouns are never intrinsically definite.

This analysis seems compatible with partial NS languages involving no omission of first/second-person subjects in root clauses (e.g. Marathi, Icelandic, and Bavarian German) but not with partial NS languages allowing such an omission (e.g. Hebrew, Finnish, and possibly Brazilian Portuguese and Russian).[9] I thus propose an alternative analysis for the latter type of partial NS languages, henceforth dubbed INCONSISTENT NS LANGUAGES. I suggest that in such languages, both T and referential first/second-person pronouns bear a D-feature, on par with consistent NS languages. In contrast, third-person referential NSs lack a D-feature and an inherent reference and can only assume a definite interpretation when embedded, via

[9] Brazilian Portuguese and Russian allow first/second-person NSs in tenses demonstrating rich verbal agreement (e.g. Soares, Miller & Hemforth 2019 and Zdorenko 2010, respectively).

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Table 1. Features on tense (T) and pronouns in different language types, based on Roberts (2019), combined with the current proposal concerning inconsistent NS languages and expletive pronouns[1]

		Consistent NS	Inconsistent NS			Partial NS		Non-NS
T	φ	✓	✓			✓		✓
	D	✓	✓[2]			✗		✗
Referential pronouns	φ	✓	✓			✓		✓
	D		Overt:	Null: 1 & 2:	Null: 3:	Overt:	Null:	
		✓ [+D]	✓ [+D]	✓ [+D]	✗	✓ [+D]	✗	✓ [+D]
Expletive pronouns	φ	✓	✓			✓		✓
	D	✓ [–D]	✓[3] [–D]			✗		✓ [–D]

Note. Pro=pronoun; *NS*=null subject; *T*=tense; φ=agreement; *D*=determiner (definiteness).

[1]While Roberts (2019) parametrizes the Extended Projection Principle (EPP; Chomsky 1981a), arguing that T only bears an EPP-feature in some languages, in the current study the universality of the EPP-feature on finite T is opted for, à la Chomsky (2000). Hence, expletive NSs are included in the proposed analysis.

[2]In Hebrew, present-tense T lacks a D–feature.

[3]In Hebrew present tense, expletives lack a D–feature.

movement to Spec.TP and control of a locally c-commanding antecedent (in line with Holmberg 2010), which enables the valuing of the embedded T's D-feature.[10] In root clauses, third-person NSs cannot assume a definite interpretation, and thus T's D-feature remains unvalued and the derivation crashes.

Hebrew digresses from this analysis, as its present tense does not pattern with past/future tenses regarding subject omission, nor regarding agreement marking. Thus, I propose that present-tense T bears no D-feature in Hebrew as it lacks a person feature (Shlonsky 1997).[11] Hence, only φPs can incorporate into present-tense T, while DPs cannot, as T lacks a D-feature.

Table 1 summarizes the relevant characteristics of the language types discussed above, based on Roberts (2019) along with the proposed modifications.[12]

The other NSP properties are also related to the absence/presence of D on T. Relying on Chomsky's (2013) Labeling Algorithm, Roberts (2019) proposes that a T bearing a D-feature can independently label the constituent it forms with *v*P (little v phrase), enabling the subject to remain in post-verbal position. However, if T lacks a D-feature, it cannot label the constituent it forms with *v*P, requiring either the subject's raising to Spec.TP or expletive

[10] Under this analysis, an operator in the embedded Spec.CP will be controlled by an antecedent in the main clause, as proposed in Landau (2015), regardless of the type of control – logophoric (in Hebrew) or predicative (in Finnish and Brazilian Portuguese; see Holmberg & Sheehan 2010).

[11] The same should hold for Russian past tense, which does not mark person (Timberlake 1993).

[12] For the sake of brevity, only referential/expletive NSs are included, in only a subset of NS languages, but arbitrary/generic NSs and NSs in radical *pro*-drop and expletive NS languages are also accounted for under Roberts's (2019) analysis.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

insertion. Complementizer-trace effects follow from the subject's inability to remain in VP-internal (verb phrase internal) position, since extraction is rendered illicit, with local extraction from Spec.TP being dispreferred to non-local extraction from VP-internal position due to anti-locality (e.g. Rizzi & Shlonsky 2007). Extraction from Spec.TP should be possible, however, if this position's 'criterial' nature changes once C is operated on, via e.g. *that*-deletion in English, or *que*-for-*qui* substitution in French (Roberts & Holmberg 2010).

Since Hebrew enables post-verbal subjects only with certain verb types, these subjects seem to be regulated by factors other than labeling. Hence, inversion in Hebrew is independent of the functional heads associated with the NSP. Roberts (2019) suggests that, if only arbitrary NSs can remain in VP-internal position, extraction should be blocked since the variable bound by the *wh*-operator is indefinite. Indeed, I have proposed that third-person NSs are inherently indefinite in inconsistent NS languages and can assume definiteness only via movement to Spec.TP. Thus, extraction should initiate in Spec.TP, resulting in complementizer-trace effects.

This can account for the complementizer-trace effects in Finnish (and Russian), as well as for *if*-trace effects in Hebrew, but what about the lack of *that*-trace effects in Hebrew? It can be related to the clitic nature of *še-*, the Hebrew *that*-type complementizer (Shlonsky 1988). While Shlonsky argues that *še-* is a proclitic both syntactically and phonologically, I propose that it is an enclitic in the syntax, obligatorily attaching to the preceding predicate that selects a declarative complement, while being a proclitic in the phonology, as it unites with any phonological material following it (see Klavans 1985 for the suggestion that clitics' structural and phonological hosts need not be identical).[13] Being an enclitic, *še-* cannot detach from the relevant declarative predicate, as can be seen in the ungrammaticality of the sentential subject in (5a) and of the topicalized complement clause in (6a), compared to the grammaticality of the English equivalents in (5b) and (6b), respectively. However, (5a) and (6a) can be salvaged by the insertion of the demonstrative pronoun *ze* 'this' before the initial clause. *Ze* can function as a nominal predicate interchangeable with propositional nouns such as *ha-uvda* 'the fact' (see respective (5c) and (6c)).

(5) (a) *še- hu nixšal ba- mivxan lo hifti'a (Hebrew)
that he fail.3SG.M.PST in.the- test NEG surprise.3SG.M.PST
af exad.
no one

(b) That he failed the test didn't come as a surprise to anyone.

(c) ze še- hu nixšal ba- mivxan lo hifti'a
that.DEM that he fail.3SG.M.PST in.the- test NEG surprise.3SG.M.PST
af exad.
no one
'(The fact) that he failed the test didn't come as a surprise to anyone'.

[13] A possible counterargument can arise from cases of so-called insubordinate *še*-clauses (e.g. Maschler 2018), where *še-* has no predicate to attach to. However, in all independent *še*-clauses documented so far, *še-* is identified as marking modality (signifying either optative, subjunctive, or jussive uses), evaluation/stance, or elaboration. I thus assume that declarative *še-* is distinguished – both syntactically and semantically – from modal *še-*, evaluative *še-*, and elaborative *še-*.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

(6) (a) *še- hu- nixšal ba- mivxan, dan yada.[14] (Hebrew)
that he fail.3SG.M.PST in.the- test Dan know.3SG.M.PST
(b) That he failed the test, Dan knew.
(c) (et) ze še- hu nixšal ba- mivxan, dan yada.
ACC that.DEM that he fail.3SG.M.PST in.the- test Dan know.3SG.M.PST
'(The fact) that he failed the test, Dan knew'.

I thus suggest that *še-* bears an unvalued weak [uDec] feature that can only be valued [+Dec] upon cliticization to a verb carrying a [+declarative] feature. This can explain the ungrammaticality of (5a) and (6a): $C_{[+Dec]}$ has to adjoin the main verb and cannot appear in isolation from it. Moreover, it can account for the lack of *that*-trace effects in Hebrew: Following the cliticization of *še-* to V, C is vacated and the 'criterial' nature of the embedded Spec.TP position changes, rendering extraction possible. Thus, the impossibility of *if*-trace sequences in Hebrew is related to the lack of a D-feature on third-person NSs, whereas the possibility of *that*-trace sequences is independent of the functional heads associated with the NSP and concerns instead the idiosyncratic nature of the complementizer *še-* 'that'.[15]

1.3. Universal Grammar and L2 acquisition

Some researchers contend that UG is fully accessible in L2 acquisition, such that functional features can be accessed and reassembled on L2 functional categories, in line with the Feature Reassembly Hypothesis (Lardiere 2008 et seq.; Gil & Marsden 2013). Learners can thus attain full functional representations in the L2, and failure to do so stems from a mapping problem between abstract features and surface morphology (e.g. Prévost & White 2000) or from differences in the prosodic structures available in the L1 and L2 (e.g. Goad, White & Steele 2003).

In contrast, others maintain that L2 learners' access to UG is partial at best, as not all features can be accessed and reassembled in the L2. Formal features are thus only accessible to adult L2 learners if instantiated in their L1, whereas features missing from the L1 grammar cannot become part of the underlying L2 grammar (e.g. Hawkins & Chan 1997; Tsimpli & Dimitrakopolou's 2007 Interpretability Hypothesis). Hence, adult L2 learners suffer from a representational deficit, and apparent success is merely a superficial imitation of the input rather than full functional representation in the L2. L1 and L2 acquisition processes are thus fundamentally different (e.g. Bley-Vroman 2009). Some partial access approaches, such as Tsimpli & Dimitrakopolou's (2007) Interpretability Hypothesis, nevertheless argue for the facilitative role played by interpretable features (e.g. animacy) in the acquisition of uninterpretable features (e.g. verbal agreement) uninstantiated in the learners' L1.

[14] Some speakers of Modern Hebrew pronounce the temporal marker *kše-* 'when' as *še-*, thus conflating the temporal marker with the declarative complementizer. For such speakers (6a) would sound grammatical, but its syntactic structure, along with its interpretation, would be different: 'When he failed the test, Dan knew'.

[15] Non-clitic complementizers, such as English *that*, bear a strong unvalued [uDec] feature, which can undergo valuation via Agree and need not attach to the main verb. When valuation is possible via Agree, *that*-trace effects are expected to arise unless the movement initiates in VP-internal position.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

1.4. The NSP in L2 acquisition: Previous studies

Previous studies of the NSP in L2 acquisition have rarely focused on minimalist L2 accounts such as Lardiere's (2008) Feature Reassembly Hypothesis or Tsimpli & Dimitrakopolou's (2007) Interpretability Hypothesis. Moreover, to my knowledge, no such study has examined the meso-parametric view. This subsection thus presents findings reported in previous NSP-related L2 studies, interpreting them vis-à-vis the hypotheses under inspection, wherever possible.

Previous studies show that L2 learners of English coming from consistent NS backgrounds (i.e. Spanish, Italian, Greek, or Arabic as L1s) produce/accept both referential and expletive NSs, which are ungrammatical in English (e.g. White 1985, 1986; Phinney 1987; Prentza 2010, 2014a,b; Alsaedi 2017; Ynoa 2020). While such omissions are increasingly rejected as proficiency improves, they are still attested even at advanced stages. This finding is unexpected under the Feature Reassembly Hypothesis, since subtracting the D-feature from T in terms of its reassembly predicts no incorporation of DP pronouns into T. The Interpretability Hypothesis, in contrast, predicts advanced learners' persistent struggle with subject omission, since D on T is uninterpretable.

Learners are further reported to produce/accept more expletive than referential NSs (e.g. Phinney 1987; Tsimpli & Roussou 1991; Prentza 2010). This finding can be attributed to the facilitative effect of the interpretable feature of referentiality (Prentza 2010), in line with the Interpretability Hypothesis. However, feature reassembly on T cannot account for this discrepancy, since it is not expected to discriminate referential subjects from expletive ones: Both pronouns are DPs that cannot incorporate into a D-less T.

Findings are mixed concerning post-verbal subjects, as some learners reject them consistently (e.g. White 1986; Tsimpli & Roussou 1991), while others do not, preferring post-verbal subjects following unaccusatives, compared to unergatives and transitives (e.g. White 1985, 1986; Rutherford 1989; Zobl 1989; Oshita 2004; Lozano & Mendikoetxea 2010; Prentza 2010). The former is expected under feature reassembly, as a D-less T cannot label the constituent it forms with *v*P, requiring the subject's raising or expletive insertion. The latter finding, in contrast, coheres with the Interpretability Hypothesis, as it can be attributed to the facilitative effect of the (relevant) interpretable feature of agentivity (referred to as 'verb type' in Prentza 2010, or as 'the thematic properties of the verb' in Tsimpli, Sorace & Filiaci 2004): The presence of agentivity apparently helps learners reject post-verbal subjects following unergatives and transitives, whereas non-agentivity encourages the acceptance of post-verbal subjects following unaccusatives and passives (Embick 2004).[16]

Finally, learners persistently struggle with *that*-trace sequences (e.g. White 1985, 1986; Tsimpli 1997; Tsimpli & Dimitrakopolou 2007; Prentza 2010, 2014a,b). This is expected under the Interpretability Hypothesis but not under the Feature Reassembly Hypothesis. If T's reassembly is impossible since it involves the reduction of an uninterpretable feature, it can still label the constituent it forms with vP, thus enabling the subject to remain in VP-internal position and consequently to move from this position without violating anti-locality. If T were reassembled, learners would be expected to reject *that*-trace sequences.

[16] Verbs have to involve interpretable features regardless of the predicate type or subject-verb order involved. The current study thus tests the presence/absence of the interpretable feature *relevant* to the rejection/acceptance of VS order: agentivity.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Findings concerning the facilitative effect of interpretable features like D(iscourse)-linking upon the rejection of ungrammatical *that*-trace sequences are mixed. Prentza (2010) reports that D-linking fails to ameliorate learners' performance concerning *that*-trace sequences, contra the Interpretability Hypothesis. In contrast, Tsimpli & Dimitrakopoulou (2007), who test the rejection of resumptive pronouns in interrogatives involving subject extraction out of an embedded clause with an overt complementizer, report greater acceptance rates with D-linked, compared to non-D-linked, resumptive pronouns. I argue that, while D-linking may seem to decrease learners' performance, the acceptance of resumptives in this context may instead attest to learners' willingness to avoid *that*-trace violations using a last resort mechanism (resumption).

Taken as a whole, the findings concerning learners coming from consistent NS backgrounds and acquiring non-NS L2s are difficult to reconcile with a meso-parametric perspective. While learners' struggle with subject omission and *that*-trace sequences coheres with a meso-parameter, their consistent rejection of post-verbal subjects does not. In other words, if omission is possible, T bears a D-feature, and thus verb-subject (VS) order should be possible – contrary to the performance of some learners. Moreover, complementizer-trace violations should be linked to subject-verb inversion, so it is not entirely clear how VS order is rejected, while *that*-trace sequences are accepted.

Learners' lower accuracy concerning *that*-trace sequences is also attested in L2 learners of consistent NS languages coming from non-NS backgrounds (namely, English and French; e.g. Liceras 1988, 1989; LaFond 2001; Montrul, Dias & Santos 2009). Again, this finding conforms with the Interpretability Hypothesis but not with the Feature Reassembly Hypothesis. The effect of interpretable features upon the acceptance of *that*-trace sequences has not been investigated in this language scenario.

Such learners correctly produce/accept both referential and expletive NSs from early on (e.g. Phinney 1987; Liceras 1988, 1989; Al-Kasey & Pérez-Leroux 1998; Liceras et al. 1999; Pérez-Leroux & Glass 1999; Lozano 2002; Belletti et al. 2007), while expletive NSs are sometimes acquired more quickly (e.g. Phinney 1987). Overt subject overuse is still attested but improves with proficiency (e.g. Liceras 1989; Al-Kasey & Pérez-Leroux 1998; Montrul & Rodríguez-Louro 2006; Lozano 2009). These findings cohere with feature reassembly, as the addition of a D-feature to T should enable DP pronoun incorporation into T. Overuse of overt referential subjects is predicted by both feature reassembly and the Interpretability Hypothesis, as subject omission demands pragmatic proficiency, which is often acquired late (see e.g. Slabakova & García Mayo 2015), and neither hypothesis makes predictions concerning pragmatic knowledge. The finding that expletive NSs are acquired faster is nevertheless unexpected under the Interpretability Hypothesis, which predicts referential NSs to be acquired faster due to the interpretable feature involved (referentiality).

Those learners generally accept/produce post-verbal subjects (Liceras 1988), with some learners preferring such subjects following ergative (unaccusative), compared to unergative, verbs (e.g. Liceras 1989; Belletti & Leonini 2004; Montrul & Rodríguez-Louro 2006). This finding coheres with both feature reassembly on T and the Interpretability Hypothesis, as the (relevant) interpretable feature of non-agentivity should facilitate VS order following ergative verbs. Some studies report preverbal subject overuse across all verb types (Belletti & Leonini 2004), even for near-native learners (e.g. Belletti et al. 2007). This finding better coheres with feature reassembly. Both hypotheses predict preverbal subject overuse since generalizations concerning preverbal versus post-verbal subjects require pragmatic proficiency, which is expected to be acquired late (e.g. Slabakova & García

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Mayo 2015), and neither hypothesis makes predictions regarding this proficiency. However, preverbal subject overuse is not predicted to occur across all verb types under the Interpretability Hypothesis, since the interpretable feature of non-agentivity, which is relevant to the licensing of post-verbal subjects, is expected to improve performance with non-agentive verbs, especially at advanced proficiency levels.

Taken as a whole, most findings regarding learners of non-NS backgrounds acquiring consistent NS L2s can be explained under a meso-parametric perspective. Learners' use of null and post-verbal subjects is coherent with feature reassembly on T, while any deviance from the native-speaker standard concerns pragmatic, rather than syntactic, constraints. However, complementizer-trace violations should be linked to subject-verb inversion, so it is not entirely clear how VS order is accepted, while *that*-trace sequences are rejected.

Finally, L2 learners of English coming from a non-NS background (L1 French) do not differ from English learners coming from consistent NS backgrounds (i.e. Spanish or Bulgarian as L1s) when it comes to rejecting post-verbal subjects and *that*-trace sequences (White 1985), or to producing *that*-trace violations (Slavkov 2009). The former do outperform the latter concerning the rejection of NSs – whether expletive or referential (White 1985). The fact that learners in all of the above-mentioned scenarios (NS L1/non-NS L2, non-NS L1/NS L2, and non-NS L1/non-NS L2) struggle with judgments of *that*-trace sequences seems to indicate that the poor performance concerning these constructions does not owe (only) to L1 transfer.

2. The current study

To test the Feature Reassembly Hypothesis and the meso-parametric view, the current study examines learners whose L1 and L2 differ in their feature bundles on T and pronouns: The learners' L1, Hebrew, is an inconsistent NS language where T bears both φ- and D-features in past/future tenses and only φ-features in present tense and where all pronouns but third-person referential NSs bear a D-feature. In contrast, the learners' L2, English, is a non-NS language where T bears only φ-features in all tenses, while all pronouns bear a D-feature. Reassembly is thus required concerning past/future-tense T's and third-person referential pronouns and is expected to be attested for both if T and D are indeed clustered under a single meso-parameter.

Moreover, to examine the Interpretability Hypothesis, the current study explores whether properties involving uninterpretable features prove unacquirable in the L2 (e.g. obligatoriness of pronominal subjects, impossibility of post-verbal subjects, impossibility of *that*-trace sequences), and whether interpretable features (referentiality, agentivity, and D-linking, respectively) can assist in their acquisition. Thus, learners' performance is compared in parallel constructions involving only uninterpretable features, or both (relevant) interpretable and uninterpretable features.

2.1. Research questions and predictions

2.1.1. Research questions

The study addresses the following questions:

(i) To what extent is L1 transfer attested in intermediate Hebrew-speaking learners of English?
   a. Are expletive NSs accepted?

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

b. Are referential NSs accepted in first/second persons and past tense but not in third person and/or present tense?
c. Are post-verbal subjects accepted following unaccusative, but not transitive, verbs?
d. Are complementizer-trace sequences accepted with complementizer *that* but not with complementizer *if*?

(ii) To what extent can feature bundles on functional categories (T, pronouns, complementizers) be reassembled and, in line with the meso-parametric approach, to what extent can functional categories associated with the NSP (T, pronouns) be reassembled? To what extent do learners pattern with English-speaker controls concerning constructions involving these functional categories?
a. Are expletive NSs rejected to the same extent by both learners and controls?
b. Are referential NSs rejected in all persons and tenses by both learners and controls?
c. Are post-verbal subjects rejected with all verb types by both learners and controls?
d. Are complementizer-trace sequences rejected with all complementizers by both learners and controls?

(iii) To what extent can (the relevant) interpretable features improve learners' performance?
a. Are referential NSs rejected more than expletive NSs?
b. Are agentive post-verbal subjects (following transitive verbs) rejected more than non-agentive post-verbal subjects (following unaccusative verbs)?
c. Are D-linked *that*-trace sequences rejected more than non-D-linked *that*-trace sequences?

2.1.2. Predictions

2.1.2.1. L1 transfer Under full L1 transfer, learners should accept constructions that are grammatical in Hebrew, their L1: expletive NSs, first/second-person referential NSs in past tense, post-verbal subjects following unaccusative verbs, and *that*-trace sequences. In contrast, learners are expected to reject constructions that are ungrammatical in Hebrew: referential NSs in present tense and/or in third person, post-verbal subjects following transitive verbs, and *if*-trace sequences. Statistically, learners are expected to demonstrate lower accuracy in rejection of constructions allowed in their L1, compared to those disallowed in their L1.

Under partial transfer, assuming access to UG, the unmarked is predicted to emerge, namely, subject omission (and related properties) should be possible. Learners should accept all ungrammatical constructions across the board, regardless of their L1 grammaticality. That is, they are expected to accept all NSs (expletive and referential, disregarding tense/person), all post-verbal subjects (disregarding verb type), and all complementizer-trace sequences (regardless of complementizer). Learners are thus predicted to demonstrate low accuracy in rejection of all properties under study.

2.1.2.2. Feature reassembly and meso-parameters Under feature reassembly, at least some learners are expected to reject all L2 constructions rejected by the controls and associated with T, pronouns, and complementizers. The meso-parametric approach (and full access to UG) predicts some learners' accuracy in ALL properties related to T and pronouns (but not complementizers) to cohere with the controls' accuracy. Learners are thus unexpected to match controls' accuracy in only a SUBSET of the properties associated with T and D.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

2.1.2.3. Interpretability Under the Interpretability Hypothesis, learners are predicted to fare better with constructions involving (the relevant) interpretable features. Learners' accuracy should thus be higher when rejecting referential NSs, agentive post-verbal subjects, and D-linked *that*-trace sequences, compared to expletive (non-referential) NSs, non-agentive post-verbal subjects, and non-D-linked *that*-trace sequences, respectively.

2.2. Methodology

2.2.1. Participants

Learners were 104 high-school graduates, who had learnt English formally for 11 years [aged 18;0–19;0 (M_{age} = 18;2); 86 females]. They were recruited from a pre-college translation course delivered in 3 different semesters.[17] Ninety participants were Hebrew-speaking monolinguals, while 14 defined themselves as bilinguals (Hebrew–Russian/Hebrew–German/Hebrew–Spanish).[18]

Learners' English proficiency was established based on an initial 3-hour placement test.[19] Based on learners' placement scores, as well as the acquaintance with them during the semester, their proficiency was determined as intermediate, comparable with the 'independent user' level (levels B1/B2, as defined by the Common European Framework of Reference for Languages; CEFR 2009: 123). Placement scores are provided in Table 1 of Appendix A at https://doi.org/10.17605/OSF.IO/3RVTA.

A total of 97 native English-speaker controls [aged 15;0–85;0 (M_{age} = 38;1); 70 females] were recruited from social networking sites (Facebook, LinkedIn, etc.; dialects varied: mainly American, British, and South African). Thirty-six controls were English-speaking monolinguals, while the remaining 61 defined themselves as multilinguals. Fourty-seven specified Hebrew as one of their L1s, and the remaining 14 specified Afrikaans, Yiddish, French, Spanish, Russian, and American Sign Language as one (or more) of their L1s.[20]

2.2.2. Materials and stimuli

Learners' L2 competence was tested via a binary grammaticality judgment (GJ) and correction task. Two pen-and-paper test versions including the same questions in different order were created to examine four properties in the L2: (i) obligatoriness of expletive subjects, (ii) obligatoriness of referential pronominal subjects, (iii) impossibility of post-verbal subjects, and (iv) impossibility of complementizer-trace sequences.

[17] Semester did not reveal any significant differences, so all participants were analyzed together.

[18] Bilinguals did not differ from monolinguals in their English proficiency nor did the two differ in their performance on the experimental materials (see Tables 1 and 2 in Appendix A at https://doi.org/10.17605/OSF.IO/3RVTA). Thus, all learners were analyzed together.

[19] The placement test included English-to-Hebrew translation, Hebrew-to-English translation, reading comprehension, written expression, and listening comprehension. The test is internal to the college and its content is confidential, but it was adjusted and validated in the course of five years prior to the study, and its reliability is well-established.

[20] Multilingual controls' performance on the experimental materials did not differ significantly from monolingual controls' performance, and neither did the performance of Hebrew-speaking controls from that of non–Hebrew-speaking ones. In fact, Hebrew-speaking controls outperformed their non–Hebrew-speaking peers concerning items involving the null expletive 'it' (see Tables 3 and 4 in Appendix A at https://doi.org/10.17605/OSF.IO/3RVTA). All controls were thus analyzed together.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Each version comprised 110 items: 60 target items and 50 filler items. Thirty target items involved constructions grammatical in the L1 but ungrammatical in the L2:

- Five items incorporating expletive NSs parallel to *It* (see (7) below)

(7) The weatherman reports that is likely to rain all day.

- Five items incorporating expletive NSs parallel to *There* (cf. (8))

(8) In the past existed a few universities in this city.

- Five items incorporating first/second-person referential NSs in past tense (cf. (9))

(9) I told him that had invited myself to Mary's party.

- Five items incorporating non-agentive post-verbal subjects (following unaccusative verbs; cf. (10))

(10) I heard that had come many people to the wedding.

- Five items involving *that*-trace sequences where the subject trace/gap stands for a non-D-linked *wh*-phrase (cf. (11))[21,22]

(11) Context Sentence: Luke's sister is looking forward to tonight.
Target Sentence: Who does she think that will kiss her at midnight?

- Five items involving *that*-trace sequences where the subject trace/gap stands for a D-linked *wh*-phrase (cf. (12))

(12) Context Sentence: Meg absolutely adores two famous American actresses.
Target Sentence: Which actress does she bet that will win the Tony?

The remaining 30 target items involved constructions ungrammatical in both the L1 and L2:

- Five items incorporating third-person referential NSs in past tense (cf. (13))

(13) She told them that had raised her children by herself.

- Five items incorporating first-person referential NSs in present tense (cf. (14))

(14) We notice that are fooling ourselves with this crazy idea.

- Five items incorporating second-person referential NSs in present tense (cf. (15))

[21] All interrogative items were preceded by short background sentences meant to render the questions more natural (see (11), (12), (18)). Background sentences were not subject to judgment.

[22] All sentences involving complementizer-trace sequences incorporated transitive verbs in the embedded clause, thus eliminating the possibility that learners would accept those constructions due to extraction from object position (as is the case with unaccusatives/passives).

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

(15) You think that believe in yourself until something bad happens.

- Five items incorporating third-person referential NSs in present tense (cf. (16))

(16) He imagines that can travel the world all by himself.

- Five items incorporating agentive post-verbal subjects (following transitive verbs; cf. (17))

(17) They saw that had drunk thirty guests the bubbly wine.

- Five items involving *if*-trace sequences where the subject trace/gap stands for a non-D-linked *wh*-phrase (cf. (18))

(18) Context Sentence: Emily wants to go to the cinema.
Target Sentence: Who does she wonder if will take her there tonight?

Filler items resembled target items but were mostly grammatical. They included the elements 'missing' from target items (i.e. overt expletive/referential subjects), demonstrated grammatical word order, and involved extraction from object (not subject) position, which did not result with complementizer-trace sequences. A small portion (10%) of the filler items involved ungrammatical sentences where the pronoun *that* appeared instead of the expletive *it* (cf. (19)).

(19) Danny can predict if that will be sunny tomorrow morning.

The latter was used to ensure that participants accepting expletive NSs parallel to *it* (see (7) above) indeed accept a NS in those sentences, rather than misanalyze *that* as an expletive.

The items inspecting each construction were of equal length (number of words). Items were pseudo-randomly ordered such that no two consecutive items concerned the same construction. The full list of materials appears in Appendix B at https://doi.org/10.17605/OSF.IO/3RVTA.

2.2.3. Procedure

Instructions were based on Cowart (1997). They were explained orally and were written in Hebrew on the actual test. Participants were required to read each of the target sentences and ask themselves if they seemed English-sounding or not. They were further asked whether these sentences could be said or written by a native English speaker. Participants were then requested to decide whether each sentence was possible/acceptable or impossible/unacceptable in English, and, in the case of the latter, to provide a correction of the sentence. Lastly, participants were requested not to worry about grammar rules they may have studied in school or elsewhere. The full instructions appear in Appendix B at https://doi.org/10.17605/OSF.IO/3RVTA.

The correction part was meant to determine whether learners judged the unacceptable sentences as such due to the experimental manipulation, but it elicited many unexpected corrections. Corrections were considered target-like when they did away with the problem deriving from the experimental manipulation (i.e. addition of an expletive/referential subject, change of subject position from post- to pre-verbal, or elimination of a

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

complementizer-trace sequence), even when the result was ungrammatical for reasons independent from the experimental manipulation.

2.2.4. Data analysis

The sample size was determined based on the necessary statistical tests: Paired-samples *t*-tests and repeated-measures analyses of variance (ANOVAs). Since pairwise comparisons and interactions were in order, and since several multi-leveled factors were involved, a large sample was called for (at least 100 participants for some of the tests and even more for others; see e.g. Brysbaert 2019). Observations were thus collected from as many participants as possible, given the limitations imposed by resource constraints.

In what follows, only significant effects ($p < 0.05$) are reported. Moreover, all sphericity violations incurred were corrected using Greenhouse-Geisser estimates.

2.3. Results

2.3.1. L1 transfer

Table 2 summarizes the results of learners and controls in the various target items bifurcated according to their (un)grammaticality in the learners' L1.[23] Figures 2 and 3 summarize the respective results of learners and controls in the various item types inspecting the four NSP properties (two item types per property): expletive NSs, referential NSs, post-verbal subjects, and complementizer-trace sequences. In all properties excluding expletive NSs, item type 1 involves a construction grammatical in the learners' L1, while item type 2 includes a construction ungrammatical in the learners' L1. In the case of expletive NSs, both item types involve constructions grammatical in the learners' L1.

Overall, learners demonstrated the highest accuracy rates concerning referential NSs – both grammatical (item type 1) and ungrammatical in their L1 (item type 2) – and concerning post-verbal subjects following transitive verbs (item type 2), which are ungrammatical in their L1. Some variability was detected concerning null *it*-expletives (expletive NSs; item type 1) and post-verbal subjects following unaccusative verbs (item type 2), both of which are grammatical in these learners' L1. Finally, learners grappled with null *there*-expletives (expletive NSs; item type 2) and *that*-trace sequences (complementizer-trace sequences; item type 1), which are grammatical in their L1, as well as with *if*-trace sequences (complementizer-trace sequences; item type 2), which are ungrammatical in their L1.

Since an analysis involving all possible comparisons increases the risk of false-positive results, learners' average scores in each set of constructions were compared (grammatical vs. ungrammatical in their L1; see the rows shaded in grey in Table 2). A paired-samples *t*-test revealed a significant difference between constructions grammatical and ungrammatical in the learners' L1 [$t(103) = -8.813$, $p < 0.001$], indicating that learners demonstrated significantly lower accuracy in constructions grammatical in their L1, compared to those ungrammatical in their L1, suggesting L1 transfer.[24] Learners thus

[23] Controls were not expected to fare differently concerning constructions grammatical and ungrammatical in the learners' L1. Nevertheless, results are presented uniformly concerning learners and controls for the sake of comparison.

[24] This analysis glosses over some finer distinctions between the properties and item types. These are addressed below.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Table 2. Learners' scores (rate of correct rejections of ungrammatical constructions in the L2) in the GJ task, compared to native-speaker controls: Mean accuracy levels (%) and standard deviations (in parentheses) in the item types inspecting the various NSP properties, split according to (un)grammaticality in the learners' L1

		Learners	Controls
		(*N* = 104)	(*N* = 97)
Question order	1	53	45
	2	51	52
Constructions grammatical in the learners' L1			
Expletive NSs	Item type 1: Null *it*-expletives	87.1% (21.1)	86.8% (16.1)
	Item type 2: Null *there*-expletives	70.8% (31.6)	74.3% (36.2)
Referential NSs	Item type 1: First and second persons, past tense	97.8% (6.9)	96.6% (7.6)
Post-verbal subjects	Item type 1: Following unaccusative verbs	91.7% (19)	99.3% (3.8)
Complementizer-trace sequences	Item type 1: *That*-trace sequences[1]	39.7% (34.9)	79.1% (24.5)
	Non-D-linked *that*-trace sequences	41.4% (36.9)	80.7% (23.5)
	D-linked *that*-trace sequences	38% (39.4)	77.5% (30.5)
Average (SD)		71.1% (15.6)	85.6% (15)
Constructions ungrammatical in the learners' L1			
Referential NSs	Item type 2: Present tense; third person, past tense[2]	97.4% (6)	95.8% (6.3)
Post-verbal subjects	Item type 2: Following transitive verbs	99% (4.3)	96.8% (7.4)
Complementizer-trace sequences	Item type 2: *If*-trace sequences	56.3% (36.6)	91.8% (13.6)
Average (SD)		84.2% (12.8)	95.3% (6.3)

Note. GJ = grammaticality judgment; *NSP* = Null Subject (Meso-)Parameter; *NS* = null subject; *D* = discourse; *SD* = standard deviation.

[1]In complementizer-trace sequences, item type 1 represents participants' average performance in two item types: D-linked and non-D-linked *that*-trace sequences (as detailed below item type 1). Results from the two item types were united since D-linking did not affect participants' performance, as reported below.

[2]All referential NSs ungrammatical in the learners' L1 were rejected consistently, regardless of tense/person. Thus, these numbers represent the average score of 4 item types: First/second/third-person referential NSs in present tense, along with third-person referential NSs in past tense.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

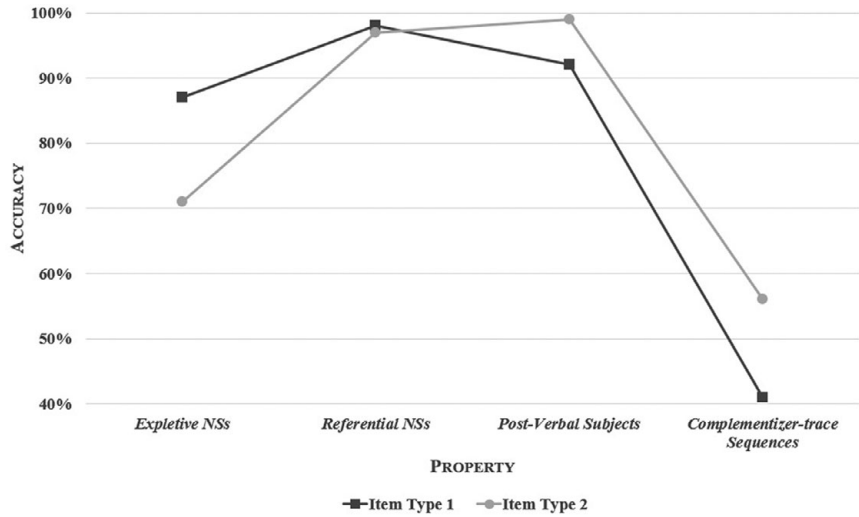

Figure 2. Learners' scores (rate of correct rejections of ungrammatical constructions in the L2) in the GJ task, in the item types inspecting the various NSP properties.

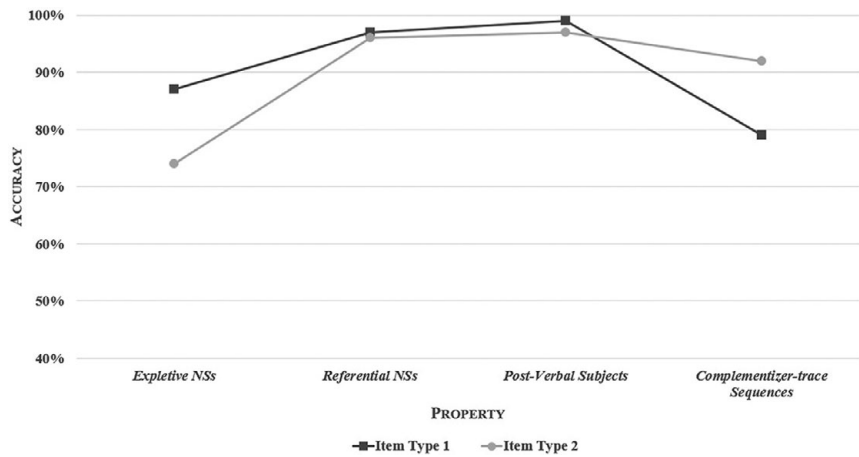

Figure 3. Native-speaker controls' scores (rate of correct rejections of ungrammatical constructions) in the GJ task, in the item types inspecting the various NSP properties.

showed an increased tendency to judge as grammatical those structures that are grammatical in their L1. Surprisingly, the native-speaker controls demonstrated the same pattern in the constructions under inspection, although the learners' L1 is not expected to affect their performance at all. Thus, controls demonstrated significantly lower accuracy in constructions grammatical in the learners' L1, compared to those ungrammatical in the learners' L1 [$t(96) = -6.512$, $p < 0.001$], suggesting that mistakes relating to the constructions grammatical in the learners' L1 are harder to detect using the GJ task – for learners and controls alike.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

To further explore the differences between item types inspecting the same property, a repeated-measures ANOVA was conducted for each participant group: learners and controls. Each ANOVA involved two within-subject factors: PROPERTY (four levels: expletive NSs, referential NSs, post-verbal subjects, complementizer-trace sequences) and ITEM TYPE (two levels: 1, 2) as well as a between-subject factor: QUESTION ORDER (two levels: 1, 2).

Both ANOVAs revealed a main effect for PROPERTY [learners: $F(3,306) = 158.875$, $p < 0.001$; controls: $F(3,153) = 22.794$, $p < 0.001$]. Contrasts indicated that all properties differed from one another for the learners, whereas the controls demonstrated differences between all properties besides: (i) referential NSs and post-verbal subjects, and (ii) expletive NSs and complementizer-trace sequences. The PROPERTY*ITEM TYPE interaction turned out significant too, in both groups [learners: $F(3,306) = 23.048$, $p < 0.001$; controls: $F(3,153) = 8.335$, $p = 0.002$].

To further explore the interaction in each group, paired-samples *t*-tests were conducted for each property to compare the two item types used to test that property. In both groups, participants were significantly more accurate concerning *it*-expletive NSs, compared to *there*-expletive NSs [learners: $t(103) = 5.075$, $p < 0.001$; controls: $t(96) = 2.163$, $p = 0.035$], and significantly less accurate concerning *that*-trace sequences, compared to *if*-trace sequences [learners: $t(103) = –4.393$, $p < 0.001$; controls: $t(96) = –4.915$, $p < 0.001$]. Moreover, learners proved less accurate concerning post-verbal subjects following unaccusative verbs, compared to those following transitive verbs [$t(103) = –3.904$, $p < 0.001$], while controls reached significantly higher accuracy concerning post-verbal subjects following unaccusative verbs, compared to those following transitive verbs [$t(96) = 2.434$, $p = 0.018$].

Table 3 and Figure 4 present the distribution of learners and controls' mistakes in all item types in which learners' mistakes were substantial.

Table 3. Percentages of learners and controls making mistakes in the GJ task in constructions involving more mistakes on the learners' part

Number of mistakes	0–1		2–3		4–5	
	Learners	Controls	Learners	Controls	Learners	Controls
Construction						
Null *it*-expletives	87%	83%	9%	17%	4%	0%
Null *there*-expletives	62%	68%	21%	13%	17%	19%
Post-verbal subjects following unaccusative verbs	91%	100%	6%	0%	3%	0%
Non-D-linked that-trace sequences	26%	80%	24%	16%	50%	4%
D-linked *that*-trace sequences	28%	68%	19%	18%	53%	14%
If-trace sequences	41%	89%	28%	11%	31%	0%

Note.GJ = grammaticality judgment; *D* = discourse.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

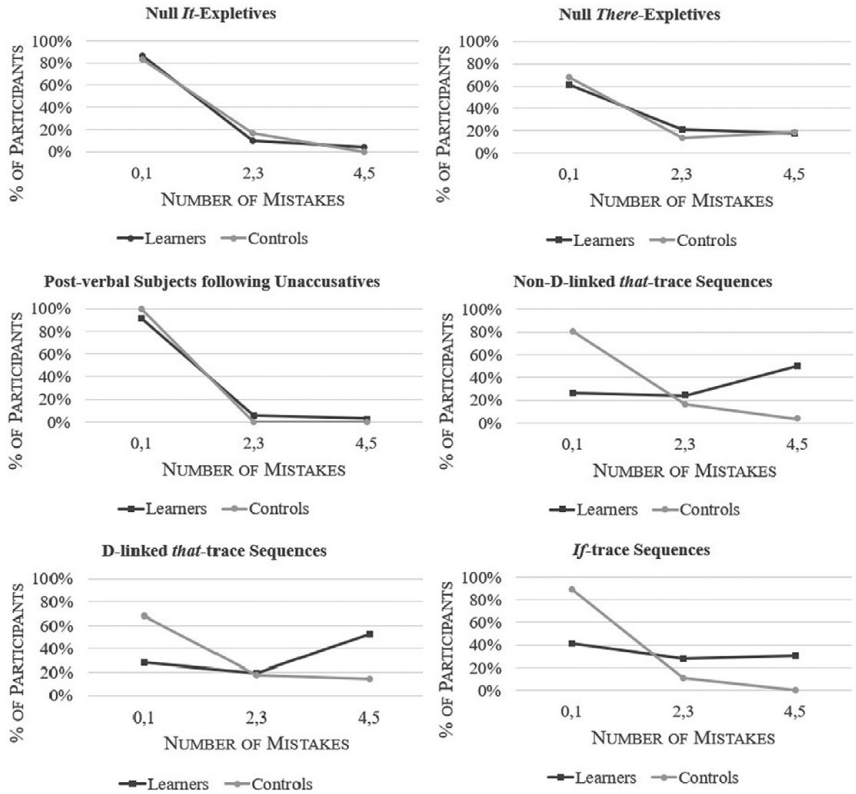

Figure 4. Percentages of learners and controls making mistakes in the GJ task in constructions involving more mistakes on the learners' part.

2.3.2. Feature reassembly and meso-parameters

Table 4 and Figure 5 summarize the scores of learners and controls in the four NSP properties, averaging the scores of item types inspecting the same property.

A repeated-measures ANOVA involving SUBJECT GROUP as a two-level between-subject factor (learners, controls) and PROPERTY as a four-level within-subject factor (expletive NSs, referential NSs, post-verbal subjects, complementizer-trace sequences) was conducted. Main effects were revealed for SUBJECT GROUP [$F(1,155) = 47.596$, $p < 0.001$), indicating that learners were significantly less accurate than controls, and for PROPERTY [$F(3,465) = 132.127$, $p < 0.001$], whose contrasts revealed that all properties differed from one another besides referential NSs and post-verbal subjects. The SUBJECT GROUP*PROPERTY interaction turned out significant as well [$F(3,465) = 48.678$, $p < 0.001$]. Separate one-way ANOVAs for each of the properties, incorporating the between-subject factor of SUBJECT GROUP revealed that learners were significantly less accurate than controls only concerning complementizer-trace sequences [$F(1,158) = 94.515$, $p < 0.001$].

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Table 4. Learners' scores (rate of correct rejections of ungrammatical constructions) in the GJ task, compared to native-speaker controls: Mean accuracy levels (%) and standard deviations (in parentheses) in the different NSP properties, undivided by item type

	Learners	Controls
Property	(N = 104)	(N = 97)
Expletive NSs	79% (21.2)	80.6% (18.7)
Referential NSs	97.5% (5.5)	95.8% (4.7)
Post-verbal subjects	95.4% (9.8)	98% (4.4)
Complementizer-trace sequences	46.2% (24.7)	83.3% (19.5)
Average (SD)	79.5% (15.3)	89.9% (12)

Note. GJ = grammaticality judgment; *NS* = null subject; *SD* = standard deviation.

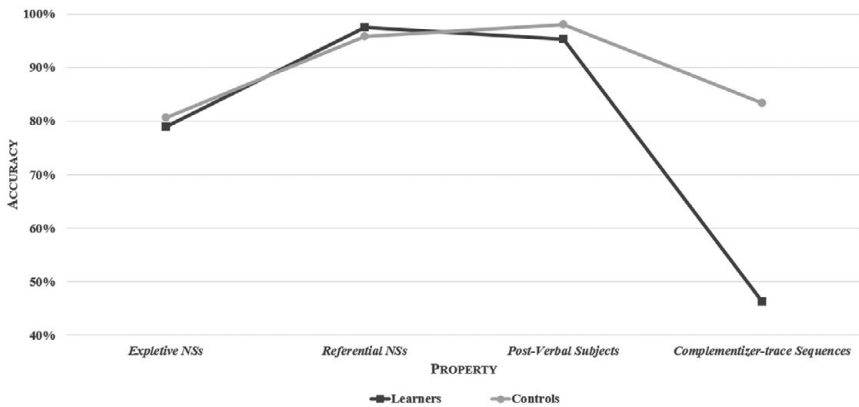

Figure 5. Learners' scores (rate of correct rejections of ungrammatical constructions) in the GJ task, compared to native-speaker controls, in the different NSP properties, undivided by item type.

2.3.3. Interpretability

Table 5 summarizes the scores of learners and native-speaker controls in three of the four NSP properties that could determine the effect of interpretability upon performance: NSs, post-verbal subjects, and *that*-trace sequences. For each property, two constructions were compared: One construction involved only uninterpretable features (dubbed

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Table 5. Learners' scores (rate of correct rejections of ungrammatical constructions) in the GJ task, compared to native-speaker controls: Mean accuracy levels (%) and standard deviations (in parentheses) in the different NSP property pairs involving interpretable and uninterpretable members

Property	Learners ($N = 104$)	Controls ($N = 97$)
NSs		
Interpretable (referential)	97.5% (5.5)	95.8% (4.7)
Uninterpretable (expletive)	79% (21.2)	80.6% (18.7)
Post-verbal subjects		
Interpretable (agentive)	99% (4.3)	96.8% (7.4)
Uninterpretable (non-agentive)	91.7% (19)	99.3% (3.8)
That-trace sequences		
Interpretable (D-linked)	41% (40.5)	77.5% (30.5)
Uninterpretable (non-D-linked)	41.4% (36.9)	80.7% (23.5)

Note. GJ = grammaticality judgment; *NSP* = Null Subject (Meso-)Parameter; *NS* = null subject; *D* = discourse.

'uninterpretable'), while the other involved both uninterpretable and (relevant) interpretable features (dubbed 'interpretable').[25]

A repeated-measures ANOVA was conducted for each of the participant groups, involving two within-subject factors: PROPERTY (three levels: NSs, post-verbal subjects, *that*-trace sequences) and INTERPRETABILITY (two levels: interpretable, uninterpretable). Both ANOVAs revealed a main effect for PROPERTY [learners: $F(2,206) = 329.353$, $p < 0.001$; controls: $F(2,104) = 24.656$, $p < 0.001$], and contrasts revealed that, in both groups, all three properties differed significantly from each other, regardless of interpretability. INTERPRETABILITY turned out significant only for the learner group [$F(1,103) = 14.059$, $p < 0.001$], indicating that properties involving (the relevant) interpretable features generally demonstrated higher accuracy rates than properties involving only uninterpretable features, regardless of property. However, the interaction between PROPERTY and INTERPRETABILITY was significant in both groups [learners: $F(2,206) = 7.427$, $p = 0.004$; controls: $F(2,104) = 10.975$, $p < 0.001$], indicating that interpretability affected differently the various properties.

Paired samples *t*-tests revealed that both learners and controls were significantly more accurate concerning interpretable (referential) NSs compared to uninterpretable (expletive)

[25] Recall that in the case of post-verbal subjects, *only uninterpretable features* means 'absence of interpretable features RELEVANT to the rejection of VS order', namely, 'absence of agentivity'.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

NSs [learners: $t(103) = 9.254$, $p < 0.001$; controls: $t(52) = 6.191$, $p < 0.001$]. Regarding post-verbal subjects, the two groups differed from one another: Learners were significantly more accurate concerning interpretable (agentive), compared to uninterpretable (non-agentive), post-verbal subjects [$t(103) = 3.904$, $p < 0.001$], whereas controls were significantly more accurate concerning uninterpretable, compared to interpretable, post-verbal subjects [$t(55) = -2.434$, $p = 0.018$]. Neither group revealed an interpretability-related difference concerning *that*-trace sequences.

2.4. Discussion

2.4.1. L1 transfer

Transfer was inconsistently attested in the intermediate L2 learners. It was seemingly observed in expletive NSs, which are grammatical in the learners' L1 and were accepted in 12.9% of null *it*-expletive items, and in 29.2% of null *there*-expletive items. Hebrew-speaking learners' performance replicated that of learners speaking consistent NS languages (e.g. Greek; Prentza 2010), although the latter accepted more ungrammatical expletive NSs (intermediate learners' mean accuracy: 2.7/5; advanced learners' mean accuracy: 3.7/5).[26]

Only 13% of the Hebrew-speaking learners accepted null *it*-expletives in at least two of the five items inspecting this construction, and their average placement score was 8.8 points lower than that of learners making zero–one mistakes. More learners (38%) made two or more mistakes concerning null *there*-expletives, and their average placement score was 3.9 points lower than the average placement score of learners making zero–one mistakes. Transfer may thus be attributed to lower English proficiency.

Controls also accepted expletive NSs in 13.2% of null *it*-expletive items, and in 25.7% of null *there*-expletive items. Seventeen percent of the controls accepted null *it*-expletives in at least two of the five items inspecting this construction, and 32% accepted null *there*-expletives in at least two items. Controls thus appeared to pattern with learners concerning expletive NSs, casting doubt on the role of transfer in learners' mistakes.

Transfer was absent from referential NSs, which were rejected regardless of their L1 (un)grammaticality: Learners accepted only 2.2% and 2.6% of referential NSs grammatical and ungrammatical in their L1, respectively. These learners thus outperformed their Finnish-speaking peers (lower-intermediate learners' acceptance rate: 46%; upper-intermediate learners: 11.7%; Alsaedi 2017) and even advanced learners speaking consistent NS languages (e.g. Arabic, 4.6%; Alsaedi 2017). Controls patterned with learners, rarely accepting referential NSs: 3.4%–4.2% of referential NSs grammatical and ungrammatical in the learners' L1.

Post-verbal subjects did demonstrate transfer to some degree as learners accepted those grammatical in their L1 (following unaccusative verbs) significantly more than those ungrammatical in their L1 (following transitive verbs): in 8.3% versus 1% of the cases. This significant difference replicates Prentza's (2010) findings concerning intermediate and advanced Greek-speaking learners of English, although those learners accepted more ungrammatical post-verbal subjects (intermediate learners' mean accuracy: 3.2/5 following unaccusatives vs. 3.8/5 following transitives; advanced learners: 4.1/5 vs. 4.5/5).[27]

[26] Prentza (2010) provides combined accuracy scores for the two expletives on a five-point scale.

[27] Again, accuracy scores were provided on a five-point scale.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Only 9% of the learners under study accepted post-verbal subjects in at least two of the five items inspecting this construction, so transfer was absent from most learners. The average placement score of learners demonstrating transfer was 3.6 points lower than that of learners making zero–one mistakes. Thus, transfer might again concern learners' lower English proficiency. Controls scarcely accepted post-verbal subjects: 0.7%–3.2% of post-verbal subjects grammatical and ungrammatical in the learners' L1, and none of them made more than a single mistake in this construction. Hence, transfer was attested concerning this construction, but only in a small portion of the learners.

Finally, transfer was apparently most evident in complementizer-trace sequences as *that*-trace sequences, which are grammatical in the learners' L1, were wrongly accepted significantly more than *if*-trace sequences, which are ungrammatical in the learners' L1: 60.3% versus 43.7%. Moreover, 72%–74% of learners accepted *that*-trace sequences in at least two of the five items inspecting these constructions, and their average placement score was 6 points lower than that of learners making zero–one mistakes. Transfer is thus associated with lower proficiency yet again. Nevertheless, transfer does not predict low accuracy concerning *if*-trace sequences, which should be rejected consistently, given their ungrammaticality in both the L1 and L2. Contra this prediction, 59% of learners accepted *if*-trace sequences in two or more of the five items inspecting this construction. Indeed, previous studies show that learners struggle with complementizer-trace sequences regardless of their L1 (e.g. White 1985, Slavkov 2009). Moreover, concerning *that*-trace sequences, the current learners seem to parallel those coming from consistent NS backgrounds, like Greek-speaking intermediate learners (mean accuracy: 2/5), although the former have consistently outperformed the latter in the other constructions under inspection. Learners' poor performance regarding complementizer-trace sequences thus likely concerns additional causes, as shall be discussed below.

Controls also accepted significantly more *that*-trace sequences than *if*-trace sequences: in 20.9% and 8.2% of the cases, respectively, mirroring the learners' difference between the two. However, only 20%–32% of controls accepted *that*-trace sequences in at least two of the five items inspecting these constructions, and only 11% of them accepted *if*-trace sequences in at least two items. Moreover, there is still an accuracy difference of about 35%–40% between learners and controls, which is probably the clearest indication for L1 transfer.

Nonetheless, we still have to address learners' acceptance of *if*-trace sequences, which should be rejected under L1 transfer. I suggest that their acceptance be attributed to a methodological issue. Participants – both learners and controls – appeared to struggle with the correction of the *if*-trace items they determined as ungrammatical, using a variety of strategies. Such variance was absent from all other target items and, more relevantly, from the *that*-trace items, which were corrected by all participants using a single strategy: complementizer deletion.

Hence, participants' uncertainty concerning the correction of *if*-trace sequences might have resulted in their acceptance, meant to avoid the correction part of the task. Learners demonstrated four correction strategies, as exemplified with item (18), repeated as (20a): (i) complementizer deletion (20b); (ii) addition of a resumptive pronoun (20c); (iii) changing the sentential structure, turning the main clause into a yes/no question and the embedded clause into a *wh*-question (20d); and (iv) changing *if* into *that* (20e). Only (i)–(iii) were considered target-like (although the deletion of *if* often sounded unnatural, especially without separating commas), while (iv) was coded as non-target-like. Controls also used

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

(i)–(iii), with (iii) involving even more 'drastic' modifications, e.g. changing the main clause from interrogative to declarative (20f).

(20) (a) Context Sentence: Emily wants to go to the cinema.
Target Sentence: *Who does she wonder if will take her there tonight?
(b) Who does she wonder will take her there tonight?
(*if* deletion)
(c) Who does she wonder if he/they will take her there tonight?
(resumptive pronoun addition)
(d) Does she wonder who will take her there tonight?
(switched main and embedded questions)
(e) *Who does she wonder that will take her there tonight?
(*if* → *that*)
(f) She wonders who will take her there tonight.
(interrogative → declarative)

The various strategies used to correct the *if*-trace items attest to the non-triviality of their correction, which can explain the lower accuracy observed in all participants concerning these items: Their correction is less straightforward compared to the other items. The fact that, despite their greater complexity, *if*-trace sequences yielded higher accuracy rates than *that*-trace ones, can be attributed to their islandhood in the case of the controls, as they constitute weak *wh*-island configurations in English, which have surely rendered them easier to reject. As for the learners, the higher accuracy concerning *if*-trace sequences can be attributed to transfer from their L1, where only *that*-trace, but not *if*-trace sequences, are licit.

2.4.2. Feature reassembly and meso-parameters

Learners patterned with English-speaker controls concerning expletive NSs, referential NSs, and post-verbal subjects. This indicates feature reassembly on past/future-tense T and on third-person pronouns, in coherence with the meso-parametric approach: If T is reassembled as 'weak' (i.e. lacking a D-feature) and all pronouns are reassembled as DPs, pronoun incorporation into T (namely, subject omission) is rendered impossible. Moreover, a 'weak' T cannot label the constituent it forms with *v*P, forcing the subject to raise to Spec.TP in order to satisfy the EPP-feature and leading learners to reject post-verbal subjects.

Hebrew-speaking learners thus seem to outperform learners with consistent NS backgrounds, even at higher L2 proficiency levels (e.g. Greek; Prentza 2010, 2014a,b). This might owe to the number of functional categories requiring reassembly. While both consistent and inconsistent NS languages require an added D-feature to a single pronoun type: Arbitrary pronouns (which were not discussed in the current study) in the former, and third-person null pronouns in the latter, eliminating the D-feature from T is necessary in only two tenses in an inconsistent NS L1 like Hebrew as opposed to all three tenses in consistent NS L1s.

However, learners' distance from the controls concerning complementizer-trace items apparently fails to cohere with the meso-parametric approach. If definite third-person subjects cannot remain in post-verbal position, they must raise to Spec.TP and extraction from the latter position should be blocked under anti-locality. I propose to resort to L1

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

transfer to explain why extraction still occurs although subjects do not remain in post-verbal position. Concerning *that*-trace sequences, I suggest that learners misanalyze *that* as a clitic, due to its status in their L1.[28] As such, it bears an unvalued weak [uDec] feature that can only be valued [+Dec] upon cliticization to a verb carrying a [+declarative] feature. This vacates C, enabling subject extraction and rendering *that*-trace sequences grammatical. If this is the case, learners did reassemble the features on T and on pronouns but failed to do so on the complementizer *that*, which is not one of the functional heads associated with the relevant meso-parameter. As for *if*-trace sequences, their non-islandhood in the learners' L1 (Shlonsky 1990) should decrease accuracy among L2 learners, as learners transfer the non-islandhood of this construction from their L1. Clustering thus arguably holds since feature reassembly seems to have taken place concerning the elements involving the two functional heads associated with the NSP: D and T. However, feature reassembly on the declarative complementizer failed to occur, but this does not impinge on the clustering conclusion.

Let us turn to discuss the lower accuracy of both learners and controls concerning expletive, compared to referential, NSs, and concerning complementizer-trace sequences in general. The target items involving null *it*-expletives incorporated raising constructions (see (7), repeated below as (21)), whose interpretation has been reported to be complex for L2 learners (e.g. Yoshimura, Nakayama, Fujimori & Shimuzu 2016).

(21) The weatherman reports that *(it) is likely to rain all day.

This comprehension deficit might have rendered these sentences more difficult to judge. Raising is also marked cross-linguistically (Givón 2001) and has been shown to pose difficulty to L1 learners (e.g. Anderson 2006). This might have influenced both learners' and controls' performance.

As for *there*-expletives (see (8), repeated as (22)), these belong to a high, literary register, which appears unfamiliar to both learners and controls. Thus, the rarity of this construction could have affected participants' performance.

(22) In the past *(there) existed a few universities in this city.

Indeed, syntactic priming effects have been demonstrated in comprehension (e.g. Ledoux, Traxler & Swaab 2007), and a sentence's comprehensibility affects its acceptability (e.g. Bever 1970). Syntactic priming has also been argued to constitute a long-term phenomenon (e.g. Bock & Griffin 2000), and Favier & Huettig (2021) report that lifelong literacy experience affects syntactic processing and increases error detection in spoken language in a GJ task. It is thus possible that judging rare constructions is harder than judging more frequent ones – for both learners and controls. Moreover, as noted by an anonymous reviewer, some of these constructions were syntactically ambiguous and could be interpreted as involving heavy NP shift (Kimball 1973), which would render expletive insertion unnecessary. Indeed, the item in (23) was the most accepted null *there*-expletive item – by both learners and controls (31% and 28%, respectively, out of all accepted *there*-expletive items).

[28] While this suggestion is new, learners have been argued to misanalyze L2 pronouns as clitics and vice versa, owing to L1 transfer (e.g.Tsimpli 1997; Parodi & Tsimpli 2005).

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

(23) Last week *(there) arose a very interesting opportunity for the investor.

Regarding complementizer-trace items, both *that*- and *if*-trace sequences involve subject extraction from embedded clauses, which can cause processing difficulties in both L1 and L2 (e.g. Juffs & Harrington 1995; Dussias & Piñar 2010). Moreover, these constructions' grammatical equivalents are extremely rare in the input (Pearl & Sprouse 2013). In addition, none of the *that*-trace items involved in this study was prototypical (i.e. of the form *Who do you think/say…?*; Dąbrowska 2008) and, thus, participants are unlikely to have ever encountered the grammatical equivalents of these items. Hence, these items' rarity might have also affected participants' judgments, as suggested above: If familiarity affects comprehensibility (Ledoux et al. 2007) and comprehensibility improves acceptability (Bever 1970), then a construction's rarity might decrease its comprehensibility and, consequently, its acceptability. Furthermore, these items were longer than all other items since they included background sentences, which might have influenced participants' performance as well. The above-mentioned problematic correction of the *if*-trace items is also likely to have induced their acceptance. All these factors can explain the lower accuracy of both learners and controls in these items, while L1 transfer can account for the still lower accuracy of learners compared to controls.

One last issue should be raised concerning the nature of the GJ task. This task required intensive, word-by-word reading, which is unintuitive since readers tend to 'skip' function words and pay attention to larger, semantically informative, units (e.g. Greenberg, Healy, Koriat & Kreiner 2004). Indeed, all experimental items yielding lower accuracy among learners and controls involved functional elements: either missing expletives or 'redundant' complementizers. In contrast, ungrammaticalities concerned with referential NSs and post-verbal subjects were rarely missed by learners and controls, and both are semantically informative. If we examine specifically the complementizers, we can also explain the lower accuracy concerning *that*, compared to *if*, the semantic purport of the latter being 'stronger'. It was thus easier for participants to 'skip' *that*, compared to *if.*

2.4.3. Interpretability

The Interpretability Hypothesis predicts learners' better performance concerning agentive, compared to non-agentive, post-verbal subjects, since the former, but not the latter, involve the interpretable feature of agentivity, which is relevant for the rejection of post-verbal subjects. However, the fact that only 9% of learners demonstrated this effect misaligns with the hypothesis, under which this difference should be attested in most, if not all, learners, even at more advanced proficiency levels. Moreover, interpretability can account for learners' better performance concerning referential, compared to expletive, NSs, but it cannot account for the same discrepancy attested in the native-speaker controls. Furthermore, the fact that expletive NSs were more easily missed can provide an alternative account to the discrepancy between referential and expletive NSs, especially since it was attested in both learners and controls. Finally, the hypothesis fails to predict learners' nativelike performance concerning expletives, which involve no interpretable features. Nor does the hypothesis predict the lack of D-linking effect upon learners' performance concerning *that*-trace sequences (a finding replicating Prentza 2010 while contradicting Tsimpli & Dimitrakopoulou 2007). It thus fails to provide an exhaustive account for the findings.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

2.4.4. General discussion

The current study deals with an understudied L1 in the context of the L2 acquisition of the NSP: Hebrew, an inconsistent NS language. Compared to learners coming from a consistent NS background – often including advanced learners – the intermediate Hebrew-speaking learners involved in the present study prove more accurate concerning most examined constructions: expletive NSs, referential NSs, and post-verbal subjects. While this could stem from the larger number of functional categories requiring reassembly in consistent NS L1s, methodological differences should also be considered. For example, the present study used a binary untimed GJ task, whereas Alsaedi (2017) involved timed grammaticality rating on a four-point scale, and Prentza (2010) used a bi-modal paced task involving acceptability rating on a five-point scale. These conditions have probably rendered judgements more difficult, reducing participants' accuracy.

Another important methodological issue concerns the fact that learners were tested on unpaced written language. This made it more difficult to detect missing or redundant functional elements, like expletive pronouns and complementizers, since those are generally 'skipped' during reading as attention is drawn to semantically informative elements (Greenberg et al. 2004). Moreover, it made it harder to test the Interpretability Hypothesis concerning the property of NSs, since uninterpretable (expletive) NSs were initially at a disadvantage relative to interpretable (referential) ones. Indeed, both learners and controls made more mistakes concerning the detection of expletive, compared to referential, NSs, as well as concerning complementizer-trace sequences. Participants' performance concerning expletive NSs and complementizer-trace sequences should thus improve in a parallel task involving spoken language, or, alternatively, self-paced reading, where attention is drawn to every single element. Moreover, an unpaced bi-modal task involving both auditory and visual versions of each sentence should also assist in the detection of the elements missed by the participants in the present study. Such conditions would provide a more neutral setting to test the Interpretability Hypothesis concerning learners' detection of NSs.

L1 transfer was observed concerning post-verbal subjects, albeit only in a small percentage of the learners, who accepted them significantly more following unaccusative verbs, where they are allowed in their L1, than following transitive verbs, where they are disallowed in their L1. Transfer was further observed concerning complementizer-trace sequences, as learners accepted *that*-trace sequences, which are licit in their L1, significantly more than *if*-trace sequences, which are illicit in their L1. The latter were nevertheless accepted in the L2, a finding that could not prima facie be explained by transfer. However, a methodological problem could explain learners' low accuracy concerning *if*-trace sequences, as both learners and controls struggled with these items' correction more than in any other item type. Moreover, transfer could still account for the difference between learners and controls, though it concerned the (non-)islandhood of *if*-interrogatives rather than the functional heads associated with the meso-parameter. Finally, transfer was absent from referential and expletive NSs, with learners and controls accepting them at similar rates. Expletive NS acceptance by both learners and controls was arguably attributed to processing difficulties, alongside the rarity and ambiguous interpretation (i.e. heavy NP shift) of these constructions.

When contrasting feature reassembly and meso-parameters on the one hand with interpretability on the other, the former seems to have the upper hand, as the latter cannot account for all findings. Interpretability did not improve learners' performance consistently (e.g. in

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

that-trace sequences), and when it did, it sometimes had a similar effect on controls (e.g. concerning referential vs. expletive NSs). In contrast, properties related to the relevant functional categories (D, T) by and large clustered together, while deviant patterns were explained on independent grounds. This kind of clustering is unexpected under micro-parametric approaches, which predict languages to vary arbitrarily, while clustering effects are not expected to occur, unless by chance. Such clustering further advocates access to UG, at least concerning the heads associated with the NSP. However, as pointed out by an anonymous reviewer, to make a strong claim about the validity of this account, a second learner group of higher proficiency should be incorporated, allowing us to see if and which structures continue to pose learnability problems.

Indeed, the participants were intermediate learners. I predict more proficient learners to demonstrate higher accuracy concerning *that*-trace sequences, provided they are exposed to constructions demonstrating the non-clitic nature of *that* in English (namely, finite sentential subjects such as *That he won surprised Dan*). Regarding the islandhood of *if*-interrogatives, the situation is more complex, since learners are expected to acquire the prohibition on any extraction out of English *if*-interrogatives, namely, to 'notice' the absence of such cases from the input. I believe that here explicit instruction would be crucial. Otherwise, learners' lower accuracy concerning *if*-trace sequences, compared to controls, is likely to persist.

If the properties were in fact acquired as a cluster, the difference revealed between the learners and the controls can perhaps be attributed to disparities in input – in terms of both quality and quantity – as well as to their initial states. While L1 learners are mainly exposed to (implicit) positive evidence, and to a great deal of it, learners in L2 classrooms receive substantially less input, which often involves explicit negative evidence. This could explain, for example, the learners' difficulty in reassembling features on the declarative complementizer based on input alone. Moreover, contra L1 learners, L2 learners already have a grammar when they set out to acquire an L2. This was evident in the effect of the L1, which, although limited, was still manifest among the L2 learners inspected.

3. Conclusions

The cross-sectional study reported above investigated the acquisition of the syntactic properties associated with the NSP in English as an L2 among Hebrew-speaking youngsters. Since English is a non-NS language, while Hebrew is an inconsistent NS language, the study enabled us to inspect the meso-parametric view in the context of L2 acquisition, focusing on an L1 that has been understudied in this context. Moreover, results were examined vis-à-vis two L2 accounts: the Feature Reassembly Hypothesis and the Interpretability Hypothesis, thus addressing queries of L1 transfer, access to UG, and the nature of the difference between L1 and L2 acquisition.

Hebrew-speaking intermediate learners of English seem to have transitioned from inconsistent NSs in their L1 to no NSs in their L2. These learners generally proved more accurate than learners coming from consistent NS backgrounds, although methodologies differed among the studies. Transfer was absent from referential and expletive NSs, as non-target acceptance of the latter was attested in both learners and controls at similar rates. However, limited evidence for L1 transfer was observed in two of the properties under study: post-verbal subjects (although only in a small portion of the learners) and complementizer-trace sequences.

https://doi.org/10.1017/S0022226724000409 Published online by Cambridge University Press

Feature reassembly appears to have taken place concerning the functional heads associated with the meso-parameter under study: D and T, with learners meeting the native standard in expletive and referential NSs, and in post-verbal subjects. Learners nevertheless fared worse than controls concerning complementizer-trace sequences, proving unsuccessful in both feature reassembly on the declarative complementizer *that*, which they arguably misanalyze as a clitic like Hebrew *še-*, and the establishment of embedded *if*-interrogatives as islands, contra their status in Hebrew. These are nonetheless independent from the NSP. An alternative account to feature reassembly and the meso-parametric view, the Interpretability Hypothesis, could not account for all findings, since interpretability did not improve performance consistently across the different properties. Finally, learners' and controls' lower scores concerning null expletives and complementizer-trace sequences were explained via processing difficulties, constructions' rarity, constructions' ambiguity, and methodological issues with the target items or with the task itself.

The work described thus seems to provide evidence for the meso-parametric approach. Moreover, it suggests that meso-parameters can serve to account for restructuring in L2 grammars and are not limited to L1 grammars. This also indicates that, at least concerning NSs and associated properties, UG is accessible to L2 learners. However, the cross-sectional nature of the study cannot determine whether the properties appearing to cluster together were indeed acquired concurrently. This will be addressed in future research. The difference between learners and controls nevertheless seems to be quantitative rather than qualitative. Hence, it appears that L1 and L2 acquisition do not differ fundamentally from one another.

Acknowledgements. I heartily thank Tal Siloni and the three anonymous *Journal of Linguistics* reviewers for their helpful comments and suggestions on earlier drafts of this paper.

Competing interests. The author declares none.

References

Al-Kasey, Tamara & Ana Pérez-Leroux. 1998. Second language acquisition of Spanish null subjects. In Suzanne Flynn, Gita Martohardjono & Wayne O'Neil (eds.), *The generative study of second language acquisition*, 161–185. New York: Psychology Press. https://doi.org/10.4324/9781315806471.

Alsaedi, Naif Saeed Mohammed. 2017. *Pronominal subjects in the English of Arabic, Finnish and French speakers.* Ph.D. dissertation, Newcastle University. http://theses.ncl.ac.uk/jspui/handle/10443/3784.

Anderson, D. L. 2006. *The acquisition of tough-movement in English.* Ph.D. dissertation, University of Cambridge.

Baker, Mark. 2008. The macroparameter in a microparametric world. In Theresa Biberauer (ed.), *The limits of syntactic variation*, 351–373. Amsterdam: John Benjamins. https://doi.org/10.1075/la.132.16bak.

Belletti, Adriana, Elisa Bennati & Antonella Sorace. 2007. Theoretical and developmental issues in the syntax of subjects: Evidence from near-native Italian. *Natural Language & Linguistic Theory* 25, 657–689. https://doi.org/10.1007/s11049-007-9026-9.

Belletti, Adriana & Chiara Leonini. 2004. Subject inversion in L2 Italian. In Susan Foster-Cohen, Michael Sharwood-Smith, Antonella Sorace and Mitsuhiko Ota (eds.), *EUROSLA Yearbook*, vol. 4, 95–118. Amsterdam: John Benjamins. https://doi.org/10.1075/eurosla.4.06bel.

Bever, Thomas. 1970. The cognitive basis for linguistic structures. In John Hayes (ed.), *Cognition and the development of language*, 279–362. New York: Wiley.

Biberauer, Theresa & Ian Roberts. 2015. Rethinking formal hierarchies: A proposed unification. *Cambridge Occasional Papers in Linguistics* 7, 1–31.

Biberauer, Theresa & Ian Roberts. 2017. Parameter setting. In Adam Ledgeway & Ian Roberts (eds.), *The Cambridge handbook of historical syntax*,134–162. Cambridge: Cambridge University Press. https://doi.org/10.1017/9781107279070.008.

Bley-Vroman, Robert. 2009. The evolving context of the fundamental difference hypothesis. *Studies in Second Language Acquisition* 31.2, 175–198. https://doi.org/10.1017/S0272263109090275.
Bloom, Paul. 1990. Subjectless sentences in child language. *Linguistic Inquiry*, 21.4, 491–504.
Bock, Kathryn & Zenzi Griffin. 2000. The persistence of structural priming: Transient activation or implicit learning? *Journal of Experimental Psychology: General* 129.2, 177–192. https://doi.org/10.1037//0096-3445.129.2.177
Boeckx, Cedric. 2014. What principles and parameters got wrong. In M. Carme Picallo (ed.), *Linguistic variation in the minimalist framework*, 154–178. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198702894.003.0008
Borer, Hagit. 1984. *Parametric syntax: Case studies in Semitic and Romance languages*. Dordrecht: Foris.
Borer, Hagit. 1989. Anaphoric AGR. In Osvaldo Jaeggli & Kenneth Safir (eds.), *The Null Subject Parameter*, 69–109. Dordrecht: Kluwer. https://doi.org/10.1007/978-94-009-2540-3_3
Brandel, Noa. 2014. *Parameters (or lack thereof) in L2 acquisition: The Null Subject Parameter*. M.A. thesis, Tel Aviv University.
Brandel, Noa. 2018. The positive effect of explicit positive evidence: Hebrew speakers unlearning null subjects in L2 English. *Instructed Second Language Acquisition* 2.2, 215–241. https://doi.org/10.1558/isla.35105.
Brysbaert, Marc. 2019. How many participants do we have to include in properly powered experiments? A tutorial of power analysis with reference tables. *Journal of Cognition* 2.1, 1–38. https://doi.org/10.5334/joc.72.
Camacho, José. 2013. *Null subjects (Cambridge studies in linguistics)*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139524407.
Cardinaletti, Anna. 2018. On different types of postverbal subjects in Italian. *Italian Journal of Linguistics* 30.2, 79–106. https://doi.org/10.26346/1120-2726-125.
CEFR. 2009. *Relating language examinations to the Common European Framework of Reference for languages (CEFR): Learning, teaching, assessment: A manual*. Language Policy Division, Council of Europe.
Chomsky, Noam. 1964. *Current issues in linguistic theory*. The Hague: Mouton.
Chomsky, Noam. 1981a. *Lectures on government and binding*. Dordrecht: Foris.
Chomsky, Noam. 1981b. Principles and parameters in syntactic theory. In Norbert Hornstein & David Lightfoot (eds.), *Explanation in linguistics: The logical problem of language acquisition*, 32–75. London: Longman.
Chomsky, Noam. 1986. *Knowledge of language: Its nature, origin and use*. New York: Praeger.
Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Roger Martin, David Michaels & Juan Uriagereka (eds.), *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, 89–155. Cambridge, MA: MIT Press.
Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press. https://doi.org/10.7551/mitpress/4056.003.0004.
Chomsky, Noam. 2013. Problems of projection. *Lingua* 130, 33–49. https://doi.org/10.1016/j.lingua.2012.12.003.
Chomsky, Noam & Howard Lasnik. 1993. The theory of principles and parameters. In Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld & Theo Vennemann (eds.), *Syntax: An international handbook of contemporary research*, 506–569. Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110095869.1.9.506.
Clahsen, Harald & Upyong Hong. 1995. Agreement and null subjects in German L2 development: New evidence from reaction-time experiments. *Second Language Research* 11.1, 57–87. https://doi.org/10.1177/026765839501100103.
Cowart, Wayne. 1997. *Experimental syntax: Applying objective methods to sentence judgments*. Thousand Oaks, CA: Sage.
Dąbrowska, Ewa. 2008. Questions with long-distance dependencies: A usage-based perspective. *Cognitive Linguistics* 19.3, 391–425. https://doi.org/10.1515/COGL.2008.015.
Dal Pozzo, Lena. 2015. *New information subjects in L2 acquisition: Evidence from Italian and Finnish*. Firenze University Press. http://digital.casalini.it/9788866558705.
Davies, William. 1996. Morphological uniformity and the null subject parameter in adult SLA. *Studies in Second Language Acquisition* 18.4, 475–493. http://doi.org/10.1017/S0272263100015382.
Déchaine, Rose-Marie & Martina Wiltschko. 2002. Decomposing pronouns. *Linguistic Inquiry* 33.3, 409–442. https://doi.org/10.1162/002438902760168554.
Diesing, Molly. 1992. *Indefinites*. Cambridge, MA: MIT Press.
Dryer, Matthew. 2013. Expression of pronominal subjects. In Matthew Dryer & Martin Haspelmath (eds.), *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.
Dussias, Paola & Pilar Piñar. 2010. Effects of reading span and plausibility in the reanalysis of *wh*-gaps by Chinese-English second language speakers. *Second Language Research* 26.4, 443–472. https://doi.org/10.1177/0267658310373326.

Embick, David. 2004. Unaccusative syntax and verbal alternations. In Artemis Alexiadou, Elena Anagnostopoulou & Martin Everaert (eds.), *The Unaccusativity Puzzle*, 137–158. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199257652.003.0006.

Favier, Saoradh & Falk Huettig. 2021. Long-term written language experience affects grammaticality judgements and usage but not priming of spoken sentences. *Quarterly Journal of Experimental Psychology* 74.8, 1378–1395. https://doi.org/10.1177/17470218211005228.

Gil, Kook-Hee & Heather Marsden. 2013. Existential quantifiers in second language acquisition: A feature reassembly account. *Linguistic Approaches to Bilingualism* 3.2, 117–149. https://doi.org/10.1075/lab.3.2.01gil.

Givón, Talmy. 2001. *Syntax. An introduction. Vol. 2*. Amsterdam: John Benjamins. https://doi.org/10.1075/z.syn2.

Goad, Heather, Lydia White & Jeffrey Steele. 2003. Missing inflection in L2 acquisition: Defective syntax or L1-constrained prosodic representations? *Canadian Journal of Linguistics* 48.3/4, 243–263. https://doi.org/10.1017/S0008413100000669.

Greenberg, Seth, Alice Healy, Asher Koriat & Hamutal Kreiner. 2004. The GO model: A reconsideration of the role of structural units in guiding and organizing text online. *Psychonomic Bulletin & Review* 11, 428–433. https://doi.org/10.3758/BF03196590.

Hawkins, Roger & Cecilia Yuet-hung Chan. 1997. The partial availability of universal grammar in second language acquisition: The failed functional features hypothesis. *Second Language Research* 13, 187–226. https://doi.org/10.1191/026765897671476153.

Holmberg, Anders. 2010. Null subject parameters. In Theresa Biberauer, Anders Holmberg, Ian Roberts & Michelle Sheehan (eds.), *Parametric variation: Null subjects in minimalist theory*, 88–124. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511770784.003.

Holmberg, Anders & Michelle Sheehan. 2010. Control into finite clauses in partial null-subject languages. In Theresa Biberauer, Anders Holmberg, Ian Roberts & Michelle Sheehan (eds.), *Parametric variation: Null subjects in minimalist theory*, 125–152. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511770784.004.

Huang, C.-T. James. 2014. On syntactic analyticity and parametric theory. In Andrey Li & Andrew Simpson (eds.), *Chinese syntax in a cross-linguistic perspective*, 1–48. New York: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199945658.003.0001.

Huang, C.-T. James & Ian Roberts. 2017. *Principles and parameters of universal grammar*. In Ian Roberts (ed.), *The Oxford handbook of universal grammar*, 307–354. Oxford: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199573776.013.14.

Hyams, Nina & Kenneth Wexler. 1993. On the grammatical basis of null subjects in child language. *Linguistic Inquiry* 24.3, 421–459. http://www.jstor.org/stable/4178822.

Juffs, Alan & Michael Harrington. 1995. Parsing effects in second language sentence processing: Subject and object asymmetries in *wh*-extraction. *Studies in Second Language Acquisition* 17.3, 482–516. http://doi.org/10.1017/S027226310001442X.

Kayne, Richard. 2005. Some notes on comparative syntax, with special reference to English and French. In Guglielmo Cinque & Richard Kayne (eds.), *The Oxford handbook of comparative syntax*, 3–69. New York: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195136517.013.0001.

Kimball, John. 1973. Seven principles of surface structure parsing in natural language. *Cognition* 2.1, 15–47. https://doi.org/10.1016/0010-0277(72)90028-5.

Kizu, Mika. 2013. L2 Acquisition of null subjects in Japanese: A new generative perspective and its pedagogical implications. In Melinda Whong, Kook-Hee Gil & Heather Marsden (eds.), *Universal Grammar and the second language classroom*, 35–55. Dordrecht: Springer. https://doi.org/10.1007/978-94-007-6362-3_3.

Klavans, Judith. 1985. The independence of syntax and phonology in cliticization. *Language* 61.1, 95–120. https://doi.org/10.2307/413422.

LaFond, Larry. 2001. *The pro-drop parameter in second language acquisition revisited: A developmental account.* Ph.D. dissertation, University of South Carolina. https://doi.org/10.7282/T34B304Q.

Landau, Idan. 2004. The scale of finiteness and the calculus of control. *Natural Language & Linguistic Theory* 22, 811–877. https://doi.org/10.1007/s11049-004-4265-5.

Landau, Idan. 2015. *A two-tiered theory of control*. Cambridge, MA: MIT Press. https://doi.org/10.7551/mitpress/9780262028851.001.0001.

Lardiere, Donna. 2008. Feature assembly in second language acquisition. In Juana Liceras, Helmut Zobl & Helen Goodluck (eds.), *The role of formal features in second language acquisition*, 106–140. New York: Routledge. https://doi.org/10.4324/9781315085340-5

Ledoux, Kerry, Matthew Traxler & Tamara Swaab. 2007. Syntactic priming in comprehension: Evidence from event-related potentials. *Psychological Science* 18.2, 135–143. https://doi.org/10.1111/j.1467-9280.2007.01863.x.

Liceras, Juana. 1988. Syntax and stylistics: More on the pro-drop parameter. In James Pankhurst, Michael Sharwood-Smith & Paul Van Buren (eds.), *Learnability and second languages*, 71–93. Foris. https://doi.org/10.1515/9783110874150-005.

Liceras, Juana. 1989. On some properties of the 'pro-drop' parameter: Looking for missing subjects in non-native Spanish. In Susan Gass & Jacquelyn Schachter (eds.), *Linguistic perspectives on second language acquisition*, 109–133. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139524544.009.

Liceras, Juana, Lourdes Díaz & Denyse Maxwell. 1999. Null arguments in non-native grammars: The Spanish L2 of Chinese, English, French, German, Japanese and Korean speakers. In Elaine Klein & Gita Martohardjono (eds.), *The development of second language grammars: A generative approach*, 109–145. Amsterdam: John Benjamins. https://doi.org/10.1075/lald.18.07lic.

Lozano, Cristóbal. 2002. Knowledge of expletive and pronominal subjects by learners of Spanish. *ITL – International Journal of Applied Linguistics* 135/136, 37–60. https://doi.org/10.1075/itl.135-136.02loz.

Lozano, Cristóbal. 2009. Selective deficits at the syntax-discourse interface: Evidence from the CEDEL2 corpus. In Neal Snape, Yan-kit Ingrid Leung & Michael Sharwood-Smith (eds.), *Representational deficits in SLA: Studies in honor of Roger Hawkins*, 127–166. Amsterdam/Philadelphia: John Benjamins. https://doi.org/10.1075/lald.47.09loz.

Lozano, Cristóbal & Amaya Mendikoetxea. 2010. Interface conditions on postverbal subjects: A corpus study of L2 English. *Bilingualism: Language and Cognition* 13.4, 475–497. http://doi.org/10.1017/S1366728909990538.

Maschler, Yael. 2018. The on-line emergence of Hebrew insubordinate *she-* ('that/which/who') clauses: A usage-based perspective on so-called 'subordination'. *Studies in Language* 42.3, 669–707. https://doi.org/10.1075/sl.17065.mas.

Montrul, Silvina & Celeste Rodríguez-Louro. 2006. Beyond the syntax of the Null Subject Parameter: A look at the discourse-pragmatic distribution of null and overt subjects by L2 learners of Spanish. In Vincent Torrens & Linda Escobar (eds.), *The acquisition of syntax in Romance languages*, 401–418. Amsterdam/Philadelphia: John Benjamins. https://doi.org/10.1075/lald.41.19mon.

Montrul, Silvina, Rejane Dias & Hélade Santos. 2009. On some null subject parameter-related properties in the L3 acquisition of Brazilian Portuguese. *Estudos da Língua(gem) Vitória da Conquista* 7, 199–232. https://doi.org/10.22481/el.v7i2.1096.

Newmeyer, Frederick. 2004. Against a parameter-setting approach to typological variation. In Jeroen van Craenenbroek & Johan Rooryck (eds.), *Language Variation Yearbook*, vol. 4, 181–234. Amsterdam: John Benjamins. https://doi.org/10.1075/livy.4.06new.

Oshita, Hiroyuki. 2004. Is there anything there when *there* is not there? Null expletives and second language data. *Second Language Research* 20, 95–130. https://doi.org/10.1191/0267658304sr232oa.

Parodi, Teresa & Ianthi-Maria Tsimpli. 2005. 'Real' and apparent optionality in second language grammars: Finiteness and pronouns in null operator structures. *Second Language Research* 21.3, 250–285. https://doi.org/10.1191/0267658305sr248oa.

Pearl, Lisa & Jon Sprouse. 2013. Syntactic Islands and learning biases: Combining experimental syntax and computational modeling to investigate the language acquisition problem. *Language Acquisition* 20.2, 23–68. https://doi.org/10.1080/10489223.2012.738742.

Pérez-Leroux, Ana & William Glass. 1999. Null anaphora in Spanish second language acquisition: Probabilistic versus generative approaches. *Second Language Research* 15.2, 220–249. https://doi.org/10.1191/026765899676722648.

Pesetsky, Davod & Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In Simin Karimi, Vida Samiian & Wendy Wilkins (eds.), *Phrasal and clausal architecture: Syntactic derivation and interpretation*, 262–294. Amsterdam: John Benjamins. https://doi.org/10.1075/la.101.14pes.

Phinney, Marianne. 1987. *The pro-drop parameter in second language acquisition*. In Thomas Roeper & Edwin Williams (eds.), Parameter setting, 221–238. Dordrecht: Reidel. https://doi.org/10.1007/978-94-009-3727-7_10.

Platzack, Christer. 2004. Agreement and the person phrase hypothesis. *Working Papers in Scandinavian Syntax* 73, 83–112.

Prentza, Alexandra. 2010. *Feature interpretability in second language acquisition: Evidence from the Null Subject Parameter in the Greek/English interlanguage.* Ph.D. dissertation, Aristotle University of Thessaloniki. http://hdl.handle.net/10442/hedi/28701.

Prentza, Alexandra. 2014a. Can Greek learners acquire the overt subject property of English? A pilot study. *Theory and Practice in Language Studies* 4.9, 1770–1777. https://doi.org/10.4304/tpls.4.9.1770-1777.

Prentza, Alexandra. 2014b. 'Subject, Subject, Where Are You?' Unlearning L1 Null Subjects in L2 English: Is there a way? *ICT for language learning conference proceedings*, 7th ed., 547–551. Padova, Italy: Pixel Print.

Prévost, Philippe & Lydia White. 2000. Missing surface inflection or impairment in second language acquisition? Evidence from tense and agreement. *Second Language Research* 16.2, 103–133. https://doi.org/10.1191/026765800677556046.

Rizzi, Luigi. 1982. *Issues in Italian syntax*. Dordrecht: Foris. https://doi.org/10.1515/9783110883718.

Rizzi, Luigi & Ur Shlonsky. 2007. Strategies of subject extraction. In Uli Sauerland & Hans-Martin Gärtner (eds.), *Interfaces+recursion=language? Chomsky's minimalism and the view from syntax-semantics*, 115–160. Berlin: Mouton de Gruyter. https://doi.org/10.1515/9783110207552.115.

Roberts, Ian. 2019. *Parameter hierarchies and Universal Grammar*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780198804635.001.0001.

Roberts, Ian & Anders Holmberg. 2010. Introduction: Parameters in minimalist theory. In Theresa Biberauer, Anders Holmberg, Ian Roberts & Michelle Sheehan (eds.), *Parametric variation: Null subjects in minimalist theory*, 1–57. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511770784.001.

Rutherford, William. 1989. Interlanguage and pragmatic word order. In Susan Gass & Jacquelyn Schachter (eds.), *Linguistic perspectives on second language acquisition*, 163–182. Cambridge: Cambridge University Press. http://doi.org/10.1017/CBO9781139524544.012.

Sauter, Kim. 2002. *Transfer and access to Universal Grammar in adult second language acquisition.* Ph.D. dissertation, University of Groningen.

Shlonsky, Ur. 1988. Complementizer-cliticization in Hebrew and the empty category principle. *Natural Language & Linguistic Theory* 6.2, 191–205. https://doi.org/10.1007/BF00134229.

Shlonsky, Ur. 1990. *Pro* in Hebrew Subject Inversion. *Linguistic Inquiry* 21, 263–275. https://www.jstor.org/stable/4178671.

Shlonsky, Ur. 1997. *Clause structure and word order in Hebrew and Arabic*. New York: Oxford University Press.

Shlonsky, Ur. 2009. Hebrew as a partial null-subject language. *Studia Linguistica* 63.1, 133–157. https://doi.org/10.1111/j.1467-9582.2008.01156.x.

Shlonsky, Ur. 2014. Referential third person null subjects in Hebrew. *Brill's Journal of Afroasiatic Languages and Linguistics* 6.1, 27–44. https://doi.org/10.1163/18776930-00601002.

Shlonsky, Ur & Edit Doron. 1992. Verb second in Hebrew. In Dawn Bates (ed.), *The Proceedings of the Tenth West Coast Conference on Formal Linguistics*, 431–445. Stanford, California: CSLI Publications.

Slabakova, Roumyana & María del Pilar García Mayo. 2015. The L3 syntax-discourse interface. *Bilingualism: Language and Cognition* 18.2, 208–226. https://doi.org/10.1017/S1366728913000369.

Slavkov, Nikolay. 2009. *The acquisition of complex* wh*-questions in the L2 English of Canadian French and Bulgarian speakers: Medial* wh*-constructions, inversion phenomena, and avoidance strategies.* Ph.D. dissertation, University of Ottawa. https://doi.org/10.20381/ruor-13183.

Snyder, William. 2007. *Child language: The parametric approach*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780199296699.001.0001.

Soares, Eduardo Correa, Philip Miller & Barbara Hemforth. 2019. The effect of verbal agreement marking on the use of null and overt subjects: A quantitative study of first person singular in Brazilian Portuguese. *Linguistic Forum* 16.1, 3579–3600. https://doi.org/10.5007/1984-8412.2019v16n1p3579.

Timberlake, Alan. 1993. Russian. In Bernard Comrie & Greville G. Corbett (eds.), *The Slavonic languages*, 827–886. London: Routledge.

Towell, Richard & Roger Hawkins. 1994. *Approaches to second language acquisition*. Clevedon: Multilingual Matters.

Tsimpli, Ianthi-Maria. 1997. Resumptive strategies in L2: A minimalist account. *Proceedings of the 21st Boston University Conference on Language Development (BUCLD)* 21.2, 639–655.

Tsimpli, Ianthi-Maria & Maria Dimitrakopoulou. 2007. The interpretability hypothesis: Evidence from *wh*-interrogatives in second language acquisition. *Second Language Research* 23, 215–242. https://doi.org/10.1177/0267658307076546.

Tsimpli, Ianthi-Maria & Anna Roussou. 1991. Parameter-resetting in L2? *UCL Working Papers in Linguistics* 3, 149–169.

Tsimpli, Ianthi-Maria, Antonella Sorace, Caroline Heycock & Francesca Filiaci. 2004. First language attrition and syntactic subjects: A study of Greek and Italian near-native speakers of English. *International Journal of Bilingualism* 8.3, 257–277. https://doi.org/10.1177/13670069040080030601.

Vainikka, Anne & Yonata Levy. 1999. Empty subjects in Finnish and Hebrew. *Natural Language & Linguistic Theory* 17.3, 613−671. https://www.jstor.org/stable/4047961

Weissenborn, Jürgen. 1991. Null subjects in early grammars: Implications for parameter setting theory. In Jürgen Weissenborn, Helen Goodluck & Thomas Roeper (eds.), *Theoretical issues in language acquisition*, 269−300. Hillsdale, NJ: Lawrence Erlbaum. https://doi.org/10.4324/9780203762875.

White, Lydia. 1985. The pro-drop parameter in adult second language acquisition. *Language Learning* 35, 47−62.

White, Lydia. 1986. Implications of parametric variation for adult second language acquisition: An investigation of the pro-drop parameter. In Vivian Cook (ed.), *Experimental approaches to second language acquisition*, 55−72. Oxford: Pergamon Press.

White, Lydia. 1989. *Universal Grammar and second language acquisition*. Amsterdam: John Benjamins.

Yang, Charles. 2002. A variational model of language acquisition. *Knowledge and Learning in Natural Language*, 14−58. Oxford, UK: Oxford University Press.

Ynoa, Marcos. 2020. *Analysis of pro-drop errors in L2 English by L1 Spanish speakers*. M.A. thesis, City University of New York.

Yoshimura, Noriko, Mineharu Nakayama, Atsushi Fujimori & Hiroya Shimizu. 2016. Control and raising constructions in early L2 English acquisition. *Second Language* 15, 53−76. https://doi.org/10.11431/secondlanguage.15.0_53.

Zdorenko, Tatiana. 2010. Subject omission in Russian: A study of the Russian National Corpus. In Stefan Gries, Stefanie Wulff & Mark Davies (eds.), *Corpus-linguistic applications: Current studies, new directions*, 119−133. Leiden,The Netherlands: Brill. https://doi.org/10.1163/9789042028012_009.

Zobl, Helmut. 1989. Canonical typological structures and ergativity in English L2 acquisition. In Susan Gass & Jacquelyn Schachter (eds.), *Linguistic perspectives on second language acquisition*, 203−221. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781139524544.015.

Cite this article: Brandel, Noa. 2025. "Feature reassembly and meso-parameters versus interpretability: From inconsistent null subjects in L1 Hebrew to no null subjects in L2 English." *Journal of Linguistics*. doi:10.1017/S0022226724000409