L2 acquisition of interrogative and relative clauses by Greek learners of English: that-trace effects and subject-object extraction

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Abstract
The present paper investigates the L2 acquisition of wh-interrogative and relative clauses in English by L1 Greek speakers. Based on SLA theories that support partial availability of Universal Grammar, such as the No Parameter Resetting Hypothesis (Tsimpli & Roussou 1991) and the Interpretability Hypothesis (Tsimpli & Dimitrakopoulou 2007), the study explores the nature of Interlanguage representation and the role of uninterpretable features with respect to specific grammatical properties: that-trace effects, Agreement, wh-subject and object extractions in interrogative and relative clauses. The acquisitional data were collected by intermediate and advanced Greek learners of English (n=40) and a control group of native speakers (n=10) using a grammaticality judgement task (consisting of 80 sentences). The results of the empirical study show that both intermediate and advanced L2 learners accept the ungrammatical that-trace structures in subj.wh-interrogatives due to the uninterpretability of the feature involved. L2 learners seem to transfer the properties of subj.-verb agreement in Greek to English L2. Moreover, no developmental change is observed with respect to Subj.(+that) interrogatives. This paper attempts to confirm the claim that uninterpretable features are inaccessible to L2 learners and cause learnability problems in L2 acquisition.

Keywords: that-trace effects, subject and object extraction, agreement, Interpretability Hypothesis
1 Introduction

Regarding the syntactic analysis of wh-interrogatives English shows that-trace effects in the context of an extracted subject out of a lexically filled complementiser (‘that’), as exemplified below:

(1) a. Who do you think [CP t’ [IP t; phoned]]?
   b. *Who do you think [CP t’; that [IP t; phoned]]?

(2) a. Who do you think [CP t’ [IP Sue met t’] ]?
   b. Who do you think [CP t’; that [IP Sue met t’] ]?

The above examples are indicative of subject-object asymmetry: in contrast to a subject, which can only be extracted out of an embedded clause without a complementiser (1a), an object can be extracted out of an embedded clause with (2b) or without (2a) a complementiser.

Extending the notions of the that-trace filter and subject-object asymmetry Chomsky (1981a) proposed the “Empty Category Principle” (ECP) that applies to LF representations:

ECP: Traces must be properly governed\(^1\).

Moreover Rizzi (1990b), following Chomsky (1981b) proposed a comprehensive account of “that-trace effects” using the notion of antecedent and head government:

A non-pronominal empty category must be:

i. Properly Head Governed

ii Antecedent Governed or theta-governed (identification)

(Rizzi 1990b: 32)

According to the Empty Category Principle (ECP) we should be in position to identify the features of empty categories. This can be done either by theta marking or by

\(^1\) Government $\alpha$ governs $\beta$ if
   (i) $\alpha$ is a head
   (ii) $\alpha$ m-commands $\beta$
   (iii) there is no barrier $\gamma$ between $\alpha$ and $\beta$

- lexical government: $\alpha$ lexically governs $B$ if and only if $\alpha$ governs $b$ and $a$ is lexical
- antecedent government: $\alpha$ antecedent governs $B$ if and only if $a$ and $B$ are coindexed and a locally c-commands $b$. (Culicover 1997).
proper antecedent government. In (2a) and (2b) the object traces are lexically governed by the verb satisfying the ECP. Regarding the traces in subj. position, although the trace in (1a) satisfies the ECP, the trace in (1b) violates the ECP because the presence of the complementizer hinders the trace ti in [Spec, CP] from antecedent-governing the trace ti in [Spec, IP].

Rizzi (1990b: 52), in his analysis of ‘that-trace effects’, argues that English C has two variants: COMP realised as that or as Agr: those two options are in complementary distribution in Standard English. That and an unexpanded C are inert for government, while Agr belongs to the class of governors. An Agr C° has the subject agreeing via Spec-head Agreement. This makes C° a possible governor. However, CP realised as that cannot serve as a governor and ‘that-trace effects’ are caused. Therefore, a sentence like (1a) is grammatical since the subject trace is properly head-governed by Agr in the head of Comp and antecedent-governed by the specifier of Comp. The ECP is thus fulfilled. On the other hand, in a sentence like (1b) that is inert for government but sufficient to block government by a higher governor and hence, the ECP is violated.

Regarding Null Subject Languages, Rizzi (1990b) argues that they do not show that-trace effects in cases of extraction across an overt complementiser. More precisely in Modern Greek (MG), a null subject language, extraction can take place from a postverbal position, while the canonical subject position (SpecTP) is occupied by an expletive pro. T properly governs the subject trace inside VP, and the that-trace effect simply does not arise, since there is no trace, but pro, adjacent to C. The verb is fully inflected for person and number and a referential pro is licensed and identified via rich verbal agreement, as in the example (3):

(3) Pjos les oti irthe?
   
   Who say-2S that came
   
   Who do you say that came?

Moreover, that-trace effects seem not to operate in MG and no violation of the ECP occurs. The following questions (4 a, b – 5 a, b) exemplify that the wh-element can be extracted from its object irrespective of the absence (4a, 5a) or presence (4b, 5b) of an overt “that”.
(4)  a. *Pjon, nomizis [t, [tha dialeksoun t]]?
    *who-acc think-2s will choose-3p
    “Who do you think they will choose?”

   b. *Pjon, nomizis [t’, oti [tha dialeksoun t]]?
    “Who do you think that they will choose?”

(5)  a. *Pjos, nomizis [t’, [ti, tha nikisi]]?
    “Who do you think they will win?”

   b. *Pjos, nomizis [t’, oti [ti, tha nikisi]]?
    “Who do you think that will win?”

Within the minimalist framework, Roussou (2002: 16) explains that “the zero form of C in the embedded clause is the morphological reflex of the Agree relation between T and C” (in more standard terms expressed as T to C movement). The C-T relation is the way in which the phi-features of the subject are realised on C and the EPP\(^2\) is satisfied on C. On the other hand, the presence of a lexical C (or *that*) “blocks T-movement, or more precisely the presence of T and its phi-features on C. As a result the embedded CP-phase contains an EPP-feature that has not been satisfied: the phi-features of T fail to receive a PF-realization (p.16). Due to the non-realization of the features of T the *that*-trace effect arises.

Furthermore, Roussou (ibid: 44) suggests that the absence of *that*-trace effects in null-subject languages is a result of their having Agr lexicalised via an agreement affix attached on the verb: agreement affixes can be taken to directly lexicalize the features of Agr (Tsimpli 1997).

Finally, Douglas (2017) proposes a novel and unifying analysis of the *that*-trace and anti- *that*-trace effects in English. He (ibid: 22) explains that “these effects arise from Spec-to-Spec Anti-locality interacting with systematic variation in the degree of articulation of the C-domain in clauses and RCs with and without *that*”.\(^3\)

\(^2\) Chomsky (1995) expresses the requirement that every sentence must have a subject (Extended Projection Principle), by a strong D-feature on the functional category T(ense). This D-feature can trigger either movement of the subject to Spec.T, or insertion of an expletive in Spec. T

\(^3\) Erlewine’s (2016) Spec-to-Spec Anti-locality A’-movement of a phrase from the Specifier of XP must cross a maximal projection other than XP.
1.1 That in relatives

Regarding relative clauses, that-trace effects are absent. That which is disallowed in subject interrogatives, not only can but must appear in order to license a subject trace in relatives, as in (6):

(6) The boy that left is my brother.

According to Rizzi (1990b), headed relatives are intrinsically characterized by the property of being predicated: i) they allow wh-operators: in this case the $C^0$ will necessarily be +wh and phonetically null in Modern English as in (7a) and ii) they allow null operators unspecified for the feature [WH] and that is allowed to occur, since the specifier will be compatible with a -wh $C^0$, as in (7b):

(7) a. +wh +pred: The watch which 0 [you bought t]
   b. -wh +pred: The watch Op that [you bought t]

If that is deleted, then no proper governor can be provided for the subject trace, since the deleted specifier lacks syntactic features and is unable to license an agreement element in (8):

(8) * The boy [Op Agr [t left]] is my brother.

Rizzi claims that the agreement in relatives is different from the ordinary Spec-head agreement in Comp and suggests that this type is agreement with the subject of a predication (agreement with an A-position). Following this argument, Rizzi (ibid.: 70) proposes that “in English the +pre $C^0$ carrying A-Agr is spelled out as that” and “the presence of A-Agreement turns the $C^0$ into an appropriate governor for the subject position thus permitting a trace to appear.

Furthermore, Roussou (2002) suggests an anti-that trace effect explaining that subject relatives require that despite the local movement of the subject to Spec, CP, as shown in (9):

(9) a. The boy *(that) came is my brother.
   b. [DP [CP boy that [TP t boy T that came]]] is my brother.
Rousou (ibid.: 29) proposes two possible accounts for the obligatory presence of *that*. The first one is that the NP boy directly lexicalizes the Agr features in C and the second is that *that* in relatives can carry agreement due to the presence of the NP in its Spec.

In Modern Greek, following Alexiadou & Anagnostopoulou (1996), restrictive relative clauses are formed in two ways: a) they are introduced by the wh-relative pronoun *o opios-i opia-to opio* (*who-which*) (cf10) and they are introduced by the complementiser *pu* ‘that’(cf11):

(10)  fora ena poukamiso to opio mu agorase o Pavlos.

*Wore-1S a shirt-acc the which Cl-dat bought-3S Paul-nom*

*I wore a shirt which Paul bought me*

(11)  fora ena poukamiso pu mu agorase o Pavlos.

*Wore-1S a shirt-acc that Cl-dat bought-3S Paul-nom*

*I wore a shirt that Paul bought me*

The wh-relative pronoun in Greek, according to Alexiadou (1998: 16), consists of two parts: a determiner which inflects for phi-features and shows agreement with the wh-form and a wh-word which inflects for person, gender and number. However, *pu* is an indeclinable relative complementiser, unmarked for case, gender and number. This relative complementiser also introduces the complement of factive verbs and exclamatives, but as Alexiadou (ibid: 17) claims it does not seem to occupy the same structural position as the one introducing complements of declarative verbs. Moreover, there are no zero relatives in Greek: (eg. To roloi agorasa einai panakrivo ≈ The watch I bought is very expensive).

### 1.2 The Minimalist Program and the Interpretability Hypothesis

According to the Minimalist Program (Chomsky 1995) for the architecture of the language system there are two performance systems exist: the articulatory- perceptual and the conceptual intentional (or syntax-discourse) interact with the cognitive system of the language faculty. The levels of linguistic structure, that is D-structure and S-structure, are absent and two interface levels are introduced: the Phonetic Form (PF)
at the articulatory-perceptual and the Logical Form (LF) at the syntax-discourse interface. The Economy Principle and its instantiations are dominant in minimalism. Operations in the derivation of clauses are guided by economy principles and the most economical derivation is always preferred. Thus, early movements are more costly than late movements (LF movements) and covert movement is preferred for reasons of economy. Regarding parameterization, Tsimpi (2003: 219) suggests that it is expressed as language differences at the feature level: in particular, whether a specific feature is spelled out or not in a language and how this spell-out takes place.

An important distinction is made between interpretable and uninterpretable features in terms of their interpretability at each interface, LF and PF. Tsimpi & Dimitrakopoulou (2007: 223) refer to four possible combinations:

a. LF-interpretable/ PF uninterpretable features  
b. LF-interpretable/ PF interpretable features  
c. LF-uninterpretable/ PF interpretable features  
d. LF-uninterpretable/ PF uninterpretable features

If a derivation gives rise to a LF-interpretation containing only interpretable features, it converges at LF. However, if the LF-representation contains uninterpretable features, the derivation crashes. According to Chomsky’s (1995) Checking Theory grammatical features need to be checked in the course of derivation. An uninterpretable feature that has been checked is erased. If an uninterpretable feature remains unchecked and is not erased at LF, it will cause the derivation to crash. This distinction between interpretable and uninterpretable is vital and plays an important role in the domain of second language acquisition, as it is proposed in the Interpretability Hypothesis by Tsimpi (1997, 2003).

In order to investigate the acceptability rate of [+/-] that trace effects and subject vs object extraction in interrogative and relative clauses by intermediate and advanced Greek learners of English, we will adopt the No Parameter Resetting SLA theory (Tsimpi & Roussou 1991) and mainly its more recent minimalist reformulation, that is the Interpretability Hypothesis. Within this framework, parametric options are regulated by the interpretability of the features involved. Uninterpretable features are inaccessible to the postpubertal L2 learner if these features do not exist in their L1 and the resetting of parameters associated with them. Since in the present study L1 and L2 have a different setting regarding that-trace effects and the realization of subj-verb
agreement, L1 transfer effects are expected at all stages of L2 acquisition. When it comes to instances of near native performance it is assumed that this is a result of other general learning mechanisms and not an indication of the learners’ L2 competence.

2 The Study

2.1 Assumptions and predictions

Based on the No Parameter Resetting Hypothesis, the Interpretability Hypothesis and the syntactic differences between L1 Greek and L2 English analyzed in previous sections, the following predictions can be made:

a) Both Intermediate and Advanced L2 learners are not expected to identify that-trace effects in Subj. wh-interrogatives. They are predicted to accept the ungrammatical that-trace structures due to the uninterpretability of the feature involved. Moreover, they will incorrectly transfer the L1 obligatory presence of the complementizer in such structures, since Comp. is a proper governor in Greek.

b) The uninterpretable feature of Agr in English is expected to cause learnability problems in L2 acquisition. Both Intermediate and Advanced learners will transfer the abstract properties of subj.-verb agreement in Greek to English L2, causing learnability problems in the acquisition of subject interrogatives and subject relatives.

c) Both learner groups are expected to perform better in object wh-interrogatives than in subject wh-interrogatives as reported in previous studies (Schahter & Yip 1990; White and Juffs 1998).

d) Greek L2 learners of English are not expected to show any developmental change with respect to subject (+that) interrogatives. Even advanced Greek learners will incorrectly accept that-trace effects. Regarding object interrogatives an expected developmental change is expected to occur.

e) Both intermediate and advanced L2 learners are predicted to face some learnability problems with subject relatives (anti-that trace effects), though not comparable to subject interrogatives.
f) Learners are expected to perform better in object relatives than in subject relatives.

g) Finally, they are supposed to perform better in relatives than in interrogatives.

2.2 Methodology

Two groups of learners (n=40) and a control group of adult native speakers of English (n=10) participated in the study. The learners formed two experimental groups, one Intermediate group (INT, n=20) and one Advanced (ADV, n=20) according to their results in the Oxford Placement Test (Allan 1992). All participants in the experimental groups had learnt English as a second language and they were either students at private language schools or students at the Aristotle University of Thessaloniki. The study investigated the rate of acceptability of [+/-] that-trace effects and subject vs object wh-extraction in embedded interrogatives and relative clauses.

In order to elicit data, a grammaticality judgement task consisting of 80 sentences was used. The 80 sentences were divided into 40 test items (10 ungrammatical and 30 grammatical) and 40 distractors (30 ungram. and 10 gram.) For each sentence the participants had to indicate their judgements according to a 5-point scale ranging from 1 (certainly ungrammatical or least acceptable) to 5 (grammatical, most acceptable), while 3 encoded the ‘not sure’ option. For a sentence judged as grammatical (4 or 5) by the control group, learner judgements (1 or 2) were considered as non-target. The ‘not sure’ or 3 options were excluded.

In Table 1 the variables examined in the test are presented and example sentences are given in (1-2)

(1) Interrogatives

*Subject +that
Who do you think that took my bag?

Subject -that
Which flight did they say was cancelled?

Object + that
What did she say that she bought yesterday?

Object -that
Which actor did she claim she met?
(2) Relatives

Subj. +that

* The man that kissed her is my brother.

Subj. -that

* The man is wearing a tie is my father.

Object +that

* The man that I talked to yesterday is my uncle

Object -that

* The dish I ordered was very spicy.

<table>
<thead>
<tr>
<th>Type of sentence</th>
<th>wh-extraction(subj./obj.)</th>
<th>complementizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wh-interrogatives</td>
<td>subject</td>
<td>+that</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-that</td>
</tr>
<tr>
<td></td>
<td>object</td>
<td>+that</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-that</td>
</tr>
<tr>
<td>Relatives</td>
<td>subject</td>
<td>+that</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-that</td>
</tr>
<tr>
<td></td>
<td>object</td>
<td>+that</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-that</td>
</tr>
</tbody>
</table>

Table 1. Variables tested in the grammaticality judgement task

2.3 Results

In this section, the results from the judgements of the Intermediate group (INT), the Advanced group (ADV) and the Native speakers (NS) on the interrogative and relatives are presented. The results are given in terms of target and non-target performance (percentages and frequencies), while “don’t know” responses are excluded. For the statistical analyses non-parametric chi-square tests were used. Both within group and between group differences are examined with respect to:

i) the presence or absence of the Complementizer

ii) subject vs object extraction in both interrogative and relative clauses

2.3.1 Presence or absence of the complementizer

a) Interrogatives

The incorrect judgements in Subj. (+that) interrogatives by both learner groups and native speakers are presented in Table 2.
The majority of the control group performed as expected in rejecting ungrammatical Subj. (+that) structures due to that-trace effects. However, the two groups of learners show high percentages of incorrect judgements on ungrammatical Subj. (+that) interrogatives (INT vs NS: $x^2 = 49.15$, $p = .000$; ADV vs NS: $x^2 = 32.24$, $p = .000$).

Turning to between group differences, (INT) and (ADV), there is no clear development in rejecting that-trace effects, since there is no significant difference in the rejection rate of ungrammatical Subj. (+that) ($x^2 =2.9$, $p = .09$).

Regarding incorrect judgements on grammatical subject interrogatives (-that), the results are given in Table 3.

As shown in Table 3, the judgements of the control group were fully correct. Both groups of learners show low percentages of incorrect judgements on grammatical Subj. (-that) interrogatives. However, they differ significantly from natives (INT: $x^2 = 6.87$, $p = .009$; ADV: $x^2 =12.11$, $p = .001$).

Turning to within group differences, as described in Table 4, both learner groups fare significantly better in Subj. (-that) than Subj. (+that) interrogatives (INT: $x^2 = 76.26$, $p = .000$, ADV: $x^2 = 35.32$, $p = .000$).

<table>
<thead>
<tr>
<th>Groups</th>
<th>INT</th>
<th>ADV</th>
<th>CONTROL(NS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance of ungrammatical Subj. (+that)</td>
<td>78.0</td>
<td>66.7</td>
<td>15.2</td>
</tr>
</tbody>
</table>

*Table 2. Percentages of non-target performance in Subj. (+that) interrogatives*

<table>
<thead>
<tr>
<th>Groups</th>
<th>INT</th>
<th>ADV</th>
<th>CONTROL(NS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of incorrect Judgements</td>
<td>13</td>
<td>22.1</td>
<td>0</td>
</tr>
</tbody>
</table>

*Table 3. Percentages of Incorrect judgements in Subj. (-that) interrogatives*

<table>
<thead>
<tr>
<th>Groups</th>
<th>INTERMEDIATE</th>
<th>ADVANCED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>target</td>
<td>non-target</td>
</tr>
<tr>
<td>Inter.Subj. (+that)</td>
<td>22.0 (20/91)</td>
<td>78.0 (71/91)</td>
</tr>
<tr>
<td>Inter.Subj. (-that)</td>
<td>86.7 (78/90)</td>
<td>13.3 (12/90)</td>
</tr>
</tbody>
</table>

*Table 4. Performance in Subj. (+that) and Subj. (-that) interrogatives (percentages, with n in parentheses)*
Regarding non-target performance in grammatical object interrogatives (+/- that), Table 5 shows the percentages by both learner groups and the control group. Both learner groups have a significant less successful performance than the NS group in all object interrogatives. (INT: $x^2 = 8.25$ $p = .004$; ADV: $x^2 = 7.37$ $p = .007$)

<table>
<thead>
<tr>
<th>Groups</th>
<th>INT</th>
<th>ADV</th>
<th>CONTROL(NS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-target performance</td>
<td>32.6</td>
<td>31.6</td>
<td>15.9</td>
</tr>
</tbody>
</table>

*Table 5. Non-target performance in grammatical object interrogatives*

Table 6 presents the performance of both learner groups in grammatical Obj. (+that) and Obj. (-that) interrogatives.

<table>
<thead>
<tr>
<th></th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>target</td>
<td>non-target</td>
</tr>
<tr>
<td>Inter.Obj. (+that)</td>
<td>70.0 (63/90)</td>
<td>30.0 (27/90)</td>
</tr>
<tr>
<td>Inter.Obj. (-that)</td>
<td>64.7 (55/85)</td>
<td>35.3 (30/85)</td>
</tr>
</tbody>
</table>

*Table 6. Performance in Obj. (+that) and Obj. (-that) interrogatives (percentages, with n in parentheses)*

Statistical analyses reveal no significant difference in the acceptability rate of Obj. (+that) vs Obj. (-that) interrogatives by both learner groups (INT: $x^2 = .558$, $p = .455$; ADV: $x^2 = .068$, $p = .795$). Moreover, the comparison of performance in grammatical Obj. (+that) did not yield any significant difference between the two learner groups ($x^2 = .129$, $p = .720$). The advanced learners do not seem to differ from the intermediate group in Obj. (-that) interrogatives ($x^2 = .416$, $p = .519$).

*b) Relative clauses*

Based on the performance of the two experimental groups and the controls and the control group on subject relative clauses Table 7 show the percentages of target performance in Subj. (+that) relative clauses.

<table>
<thead>
<tr>
<th>Groups</th>
<th>INT</th>
<th>ADV</th>
<th>CONTROL(NS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>percentages of target responses</td>
<td>75.3</td>
<td>86.2</td>
<td>80</td>
</tr>
</tbody>
</table>

*Table 7. Target performance in Subj. (+that) relative clauses*
Surprisingly, the control group did not perform as expected, since its percentage of target performance is lower than that of the advanced group. Both learners groups do not differ significantly from the group of natives (INT: $x^2 = 3.374, p = .541$; ADV: $x^2 = .870, p = .351$).

Regarding Subj. (-that) relative clauses, the intermediate group had a significantly lower target performance than the group of natives ($x^2 = 12.17, p = .000$) whereas the advanced group’s performance does not differ significantly from the performance of the native group (Fisher’s Exact Test $p = .016$). The percentages of target performance are shown in Table 8.

<table>
<thead>
<tr>
<th>% of target responses</th>
<th>INT</th>
<th>ADV</th>
<th>CONTROL(NS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>78.3</td>
<td>88.4</td>
<td>100</td>
</tr>
</tbody>
</table>

*Table 8. Target performance in Subj. (-that) relatives*

Turning to Obj. (+/- that) relative clauses, both learner groups differ significantly from native speakers (INT: $x^2 = 17.70, p = .000$; ADV: $x^2 = 14.30, p = .000$). Table 9 shows the performance of Intermediate and Advanced learners in Obj. (-that) relative clauses. The comparison between performances on grammatical Obj. (+that) and Obj. (-that) relatives reveals no significant differences in either group (INT: $x^2 = .364, p = .546$; $x^2 = .216, p = .642$).

<table>
<thead>
<tr>
<th></th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>non-target</td>
</tr>
<tr>
<td>Relat.Obj. (+that)</td>
<td>85.4 (76/89)</td>
<td>14.6 (13/89)</td>
</tr>
<tr>
<td>Relat.Obj. (-that)</td>
<td>82.1 (78/95)</td>
<td>17.9 (17/95)</td>
</tr>
</tbody>
</table>

*Table 9. Performance in Obj. (+that) and Obj. (-that) relatives (percentages, with n in parentheses)*

3 Discussion

The results of the study are discussed in relation to the variables tested, that is the presence or absence of the complementizer and subject vs object extraction in interrogatives and relatives.

To begin with, the prediction concerning *that*-trace effects is confirmed. Both learner groups clearly accept ungrammatical subject (+that) sentences and their non-
target performance reveals a highly significant difference from the control group. However, they seem to know that the complementizer is optional, as their percentages of incorrect judgements in subject (-that) interrogatives are low. Thus, Greek L2 learners of English are not aware of that-trace effects in English.

The above results indicate L1 transfer. Greek L2 learners of English incorrectly transfer the L1 value of the Greek Comp as a proper governor into L2 English (Tsimpli & Roussou 1991). This also has to do with the uninterpretable feature of Agr. The abstract properties of subj.-verb agreement in Greek are transferred to English L2. Thanks to agreement affixes lexicalizing Agr, that trace effects are absent in Greek and this is the reason why L2 learners accept the ungrammatical subject (+that) interrogatives in English. Moreover, the existence of another LF-uninterpretable feature can also account for this behavior. The Complementiser that has no other grammatical property apart from this of the illocutionary form of introducing a declarative clause (Radford 1997). Thus, it cannot be analyzed semantically and has no contribution to the interpretation of the sentence.

Regarding the presence or absence of that in object interrogatives, both learner groups seem to face similarly all sentences regardless of the presence or absence of that. This reveals that they know that that is optional. A slight preference to interrogative object (+that) is only given by the intermediate group but generally, the presence or absence of Comp. does not seem to affect the judgements of both learner groups.

As far as subject-object asymmetry in wh-interrogatives is concerned, the study partly confirms and partly rejects previous studies that claim that L2 learners favour object extraction (Schalther & Yip 1990; White & Juffs 1998). More precisely, both learner groups performed better in object (+that) than in subject (+that) interrogatives, confirming the aforementioned studies. However, results from the comparison of performance in subject (-that) and object (-that) interrogatives are contradictory. That is, the intermediate learners fare better in subject (-that) interrogatives than in object (-that) interrogatives. Furthermore, the advanced prefer subject (-that) to object (-that) interrogatives. These results are reported with caution and no definite conclusion can be drawn.

The prediction that no developmental change will be observed in subject (+that) interrogatives is confirmed. Even advanced Greek learners of English incorrectly accept ungrammatical subject (+that) interrogatives due to L1 transfer. The
assumption that a developmental change is expected to occur in object interrogatives is not confirmed, since the results revealed no significantly higher target performance of the advanced group in comparison to the intermediate group. The performance of both groups is quite similar.

L2 learners of English were expected to face more problems with the presence or absence of that in subject relatives. However, this is not the case. With respect to subject (+that) relatives, they were able to characterize the structures as grammatical. Their target performance may be thanks to the fact that complementizer is obligatory in both L1 and L2, as it is the manifestation (lexicalization) of Agr features. Regarding ungrammatical subject (-that) relatives, the learners’ ability to recognize the ungrammaticality of these structures may be attributed the obligatory presence of that in Greek, along with other general learning mechanisms employed by the learners. Turning to object relatives both learner groups faced no serious learnability problems with the presence or absence of the complementizer.

Finally, both learner groups performed better in object than in subject relatives confirming the prediction made. With respect to the assumption that the learners’ performance will be better in relatives than in interrogatives, this is partly supported by the comparison between objects in interrogatives and objects in relatives. It was also found that both learner groups fare better in object relatives than in object interrogatives.

4 Conclusion

The results of the present study support the claims of the No Parameter Resetting and the Interpretability Hypothesis and disprove theories of No Access (Clashen & Muysken 1986) or Full Access (Schwartz & Sprouse 1996; White 1990), since even advanced learners fail to reach native-like performance. This is due to learnability problems that persist even at advanced stages of L2 development. L2 learners are not able to reset L1 parameters to the L2 parameter values and cannot access LF-uninterpretable features, since they are subject to maturational constraints.

In the process of L2 acquisition the learners’ interlanguage grammar apart from being UG constrained is characterized by L1 transfer and variation. Regarding L1 transfer, L2 learners transfer L1 syntactic properties to the formation of their
Interlanguage. These syntactic properties are impossible to reset, since despite long exposure to L2 input even highly proficient learners encounter serious problems in accessing LF-uninterpretable features. Thus, L2 learners fail to establish native like representations for the TL.

As far as variability is concerned, this may be either in an L2 speakers grammar expressed as inconsistent use of target forms or variation among L2 speaker’s performance (Tsimpli 2005). Both notions are obvious in the results of the present study.

Moreover, in the development of the Interlanguage the L2 learners employ general learning mechanisms in order to reconcile the L2 input data with the L1 unchanging parameters. Through a misanalysis of the L2 data, learners approximate to a PF-representation, similar to the L2 one. However, this target-like performance does not indicate a change in the underlying representation.

To conclude, it should be stressed that the present study is an attempt to investigate theories of partial access to UG. Although it provides evidence in favour of these theories, the results can only provide a tentative picture of L2 acquisition of interrogative and relative clauses in English. Further research is needed in order to overcome the limitations of the present study and draw a solid conclusion in this field.

References


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