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ZENGİN UYUM DİLLERİNDE ÖRTÜK VE AÇIK ÖZNELER

NULL AND OVERT SUBJECTS IN RICH AGREEMENT LANGUAGES

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Öz

Chomsky'nin (1982) Genişletilmiş Yansıtma İlkesi (GYİ) öznenin gönderiminin eylem üzerindeki uyum biçimbirimi veya uyumun olmadığı durumlarda söylemden çıkarılabildiği dillerde ihlâl edilmektedir. Örtük özne olgusu olarak bilinen bu durum kuramsal dilbilim alanında çokça tartışma ve araştırmanın konusu olmuştur. Ayrıca, bu dillerde örtük özneler o kadar yaygındır ki özneler ancak belli koşullarda açık özne olarak gerçekleşir. Ancak bu koşullar sağlandığında özne açık olarak görünmek zorundadır. Yani, söylem koşulları yerine getirildiğinde ne olursa olsun özne açık olmak zorundadır. Bu makalede, bir örtük özne dili olan Türkçede öznelerin hangi koşullarda ve neden örtük veya açık olmak zorunda olduğu araştırılmaktadır. Bu tartışmanın bir parçası olarak da Holmberg'in (2005, 2010a) örtük özne tipolojisi için önerdiği kuramsal açıklama ile örtüşmeyen veriler sunulmaktadır. Makale ayrıca Roberts'ın (2010) özne silme önerisinin daha basit bir versiyonunu sunmaktadır.

Abstract

Chomsky's (1982) Extended Projection Principle (EPP) seems to be voided in some languages where the reference of subject can be recovered either from the agreement morphology on verb or from discourse where agreement is not available. Known as the null subject phenomenon, this has sparkled a great deal of discussion and cross-linguistic research in theoretical linguistics. Furthermore, null subjects are so common in null subject languages that subjects can only surface under strict conditions. Yet when these conditions are met null subject languages behave like non-null subject languages. That is, under the right discourse conditions subjects have to be overt regardless. I investigate in this paper how and why subjects remain unexpressed as well as how and why they have to be expressed in a null subject language; namely Turkish. In doing so, I reveal novel data contradicting the predictions made by Holmberg (2005, 2010a) regarding the theoretical account and classification of null subject languages. Finally, I offer a minimalist version of the subject deletion method developed by Roberts (2010) for null subjects.

1. Missing arguments

Extended Projection Principle (EPP) is the assumption that information relating to argument structure is available in all representations of derivation, viz. Deep Structure, Logical Form, Surface Structure, hence Phonetic Form, plus the stipulation that all clauses must have a subject even if the verb does not assign an external θ-role (Chomsky 1986: 116). Originally formulated by Chomsky (1981) to account for the non-argumental expletives in English, EPP requires that all arguments of a θ-assigning head (θ-bearers) be present throughout derivation, and if the verb does not have a subject this position is filled by an expletive.[1] Lack of one of these leads to ungrammaticality:

(1) a. *John loves
b. *Loves Mary
c. *Is an apple on the table

However, the principle quickly cracks under data from various languages. Arguments – especially subjects – are missing in many languages.[2]

(2) a. ø vengo *Italian*
come.1SG
'I come'

(Platzack 2004)

b. Questa musica rende ø allegri
this music render happy
'This music makes people happy'

(Rizzi 1986)

(3) a. ø koş-uyor-um *Turkish*
run-PRG-1SG
'I am running'
b. A: Çocuklar kitapları okula götürdüler mi?
Did the children take the books to school?
B: ø ø ø götür-dü-ler
take-PST-3PL
'They did'

1 Note that this is the original formulation and function of EPP. Currently, EPP is understood as an escape hatch from within a phase.

2 There may be other cases where an argument is missing, such as the subjects of infinitival clauses (PRO), or where it has been displaced (traces). I put them aside here and concentrate on finite clauses without movement, and especially subjects of such clauses. Also, see Rizzi (1986) for null objects.

(4) a. ø can't find my pen. ø think I left it at home.

(Radford 2004: 107)

b. This leads ø to the conclusion that [ ]

The speaker knows, for all the verbs in (2)-(4), that there has to be a subject and an object, plus an indirect object in (3b). For instance, there has to be someone to be led to a conclusion (4b) or to be made happy (2b). Furthermore, the speaker knows who these persons are in the others, namely the director, the children and the utterer of the sentence. Yet these arguments do not surface. These missing arguments, or null arguments as they are more commonly referred to, pose a real challenge for the theory. We have to either assume that lexical information need not be represented in the derivation or find a way to represent the obviously missing arguments. The first option seems empirically incorrect since it would make it impossible to recover the missing piece of information, yet the speakers do know that such sentences have a complete representation of argument structure. Thus, the mission is to find the theoretical tenet that licenses null arguments.

2. Typology and Theoretical Account

Two tasks are immediately assigned to theoretical linguists. One is to find out which languages allow which arguments to be null under which circumstances. The other is to come up with a theoretical account of the phenomenon that spans across languages, no easy task. I will put aside null objects in this paper and present an account of why subjects can and cannot remain unexpressed.

Starting with typology, there is a broad distinction between null subject languages (e.g. Italian, Spanish and Turkish) and non-null subject languages (e.g. French and English). Yet subjects come in different flavors, so do the null subject languages. According to Huang (2000), there are three sub-types of null subject languages. The first type, which includes Dutch and German, only allows non-argumental null subjects. In these languages, only true expletives that bear no theta role can go unexpressed. (5a) shows that German requires an overt expletive (es) in subject position. Note that this is a true expletive since theta is born by *Brief* 'letter'. However, the expletive goes null in V2 clauses (5b). The second group of languages – e.g. Icelandic and Yiddish – adds to this quasi-argumental null subjects which refer to natural phenomena such as rain and snow. Compare (6a) and (6b) which show that Icelandic requires an expletive in weather constructions which goes null in V2 clauses, as was the case with true expletives in

German. Although the expletives in weather constructions can appear without a theta bearing complement, their argumental status is questionable since their agentivity is limited. They cannot be the subject of an agentive verb, such as **it tried to scare Marlyn by raining on her roof*.

(5) a. *Es ist heute ja doch ein Brief gekommen* (German)
It is today MOD. PART. a letter come
'There did after all come a letter today.'
b. *Heute kam (*es) ja doch ein Brief*
today came it MOD. PART. a letter

(6) a. Það rigndi í gær (Icelandic)
It rained yesterday
'It rained yesterday.'
b. Í gær rigndi (*það)
yesterday rained it
'Yesterday it rained'

Biberauer (2010:158)

These two types of languages are also known as partial-null subject languages (Holmberg 2010a,b). The last type is the consistent null subject languages, e.g. Italian and Turkish, that can have non-argumental, quasi-argumental and referential/argumental/definite null subjects (see Biberauer 2010 and Gilligan 1987 for more on null subject typology). Turkish is such a language:

(7) a. ø öyle görünüyor ki müdür gel -me-yecek
such seems that principal show.up-NEG-FUT
'It seems that the principal won't show up'
b. ø bugün yağ-acak
today rain-FUT
'It will rain today'
c. ø bugün onu hiç gör-me-di-m
today her never see-NEG-PST-1SG
'I have never seen her today'

There is a tendency in theoretical linguistics to associate the null subject parameter to agreement (Rizzi 1986, Borer 1986, Platzack 2004, Müller 2005 among many others). However, empirical facts seem to defy this generalization. Chinese, for example, has null subjects without agreement morphology:

(8) Zhangsan shou [(ta) lai le]
Zhangsan say he come ASP

(Huang 1989: 188)

The null subject phenomenon observed in Chinese, also in Korean and Thai, is known as radical pro-drop and usually gets a different treatment than agreement-related null subjects. I will now delay this issue and summarize the two approaches to agreement-related null subjects; namely Rizzi's (1986) licensing condition and the I-subject approach by Anderson (1982) and Borer (1986, 1989) among others.

Chomsky (1981, 1982, 1986) proposes an elegant theory of empty categories, syntactic positions which should be occupied by NPs but are empty on the surface. These include traces of A-moved arguments, A'-moved wh-words, and subjects of finite and non-finite clauses. The first two are traces with different pronominal properties while the other two are pronouns without any phonological content, pro and PRO, respectively. Chomsky (1982) theorizes that the four are the instances of the same nominal category ([NP e]) which are licensed in different syntactic contexts and that they have phonologically realized counterparts, except PRO. Therefore,

(9) [NP e] is
a. *wh-trace* if it is locally A'-bound (R-expression),
b. *NP-trace* if it is locally A'-bound from a non-θ-position (anaphor),
c. *PRO* if it is locally A-bound from a θ-position,
d. *pro* if it is governed by strong enough I(nfl) or by a clitic (pronoun).

(Holmberg 2005: 534)[3]

Pro is the nominal category in the subject position of finite clauses and it is minimally different from a pronoun in being silent. Yet being silent brings about a problem. An overt pronoun has its ϕ-features phonologically specified; thus its referent can be correctly picked among the possible antecedents in the sentence or discourse. Pro, on the other hand, cannot tell what features it has, i.e. it is deficient in ϕ-features, therefore needs identification. Rizzi (1986) suggests a licensing condition and an identification condition.

(10) a. *pro* is governed by X^0_y
b. *pro* has the ϕ-features of X^0_y

3 Parentheses added by me.

(10) secures the syntactic environment that allows a classical case of null subject, such as (2a) and (3a). Pro can be governed by any head (T in null subject constructions, V in null object constructions) and assigned an interpretation by any head. If no governing head has ϕ-features, pro is assigned *arb*, the generic interpretation in Italian null object constructions (2b). T, on the other hand, does have ϕ-features, and subject pro has the same referent as the agreement marker on V.

(11) a. [T [vP *pro*]
ϕ ø
b. [T [vP *pro*]
ϕ ϕ

Parallel to other linguists, Rizzi (1986) assumes that morphologically rich agreement is correlated with ϕ-features on T. To account for the null subject parameter, he argues that the governing head of pro as well as the ϕ-feature slots of heads are parameterized. That is, pro can be governed by T or V, and its ϕ-features can be a copy of T or V. Hence, in any language pro can appear in subject and/or object position and its interpretation can be fixed by T and V or it can remain arbitrary in one of these positions.

There is, however, another approach to null subjects that defends a radical idea. Borer (1986, 1989), Alexiadou & Anagnostopoulou (1998) (henceforth A & A), Platzack (2004) Öztürk (2001, 2008) argue that agreement morphology *is* the subject in such sentences. They go on to argue that agreement is a pronominal affix and carries the subject theta-role, satisfying EPP on T. Agreement specifies the range of definite entities (in discourse or in a higher clause) that can be interpreted as the subject, which amounts to saying that Agreement has D(efiniteness)-feature. Therefore, UG need not have pro and Spec, IP need not project in (2a) and (3a).

3. A Deletion Analysis

So far, we seem to have two options. In order to satisfy EPP we either have pro that needs licensing and identification by rich agreement or agreement is the lexical item that satisfies EPP and bears the subject theta-role. Roberts (2004, 2010) argues for a third option: deletion at PF. I argue in this paper that Agree-related null subject phenomenon – that is Italian-Turkish type as opposed to Chinese type null subjects – and obligatorily overt subjects in null subject languages are the result of a syntactic context that allows or disallows deletion of pronouns at PF.

3.1 Groundwork

I assume a fairly standard framework for null subjects in languages with rich agreement proposed by Holmberg (2005) and detailed by Roberts (2010) (based on Müller's 2005 idea of impoverishment) and Sheehan (2006).

Rizzi (1986) argues that T identifies pro, that is it determines the ϕ-features of pro, giving it referential properties. Yet this account does not get on well with the current framework. For one thing, governors license/identify their governees and assign their properties in GB. With the turn of Minimalism, however, the whole sentential architecture changed within the theory. NPs now enter the derivation fully inflected. They then enter into an Agree relation with functional heads. Features come in two forms: Interpretable and uninterpretable. After Agree, the value of the interpretable feature is written as the value of the uninterpretable feature (Chomsky 1995, 2000, 2001). ϕ-features are interpretable on NPs and uninterpretable on T. When subject and verb come into the right structural configuration, derivation copies the values of ϕ-features on subject to T, after which uninterpretable features are deleted, leaving phonological material behind – that is agreement markers:

(12) [T [vP children v [VP like chocolate]]]

ϕ		ϕ
[-]val [-]int		[+]val [+]int
3rd	←	3rd
Plural	←	Plural
Neutral	←	Neutral

What concerns us here for the theory of pro is that ϕ-features are uninterpretable on T and interpretable on NP. Notice that the locus of (the value of) ϕ-features has switched from T to NP. Holmberg (2005) states that it is now impossible to maintain a Rizzian approach to pro. Because T lacks interpretable ϕ-features, it cannot assign an interpretation to pro. To remedy the theory, Holmberg proposes that pro is a ϕP with an unvalued D-feature while T has valued D-feature. Rizzi's licensing by T is now valuation of pro's D-feature by T.[4]

4 As a Reviewer reminds, Pesetsky & Torrego (2007) has an alternative model. Note that in Chomsky's terms a feature can be interpretable iff it is valued. Unvalued features are uninterpretable, and uninterpretable features are unvalued. This is known as the valuation/interpretability biconditional (Chomsky 2001: 5). For Pesetsky & Torrego (2007), however, feature valuation and interpretability are two distinct phenomena, which allows them to hypothesize the existence of uninterpretable and valued as well as interpretable and unvalued features. Valued ϕ-features on T would mean that Rizzi's (1986) theory of null subjects is still sustainable, and Holmberg's (2005) D-feature is not needed. Following this idea would obviously have interesting ramifications for the theory of null subjects. However, the paper had already been set in the Chomskyan framework when the reviewer noted this to me.

In the spirit of Chomsky (1995), Holmberg (2005) assumes that the ϕ-bearing head T has an interpretable D-feature. On the side of null subjects, he posits, after Cardinaletti & Starke (1999), that null subject is a phonologically empty ϕP without a DP layer. Once the probe in T matches the subject, the null subject values the unvalued features on T and T, in return, assigns definiteness to the subject. This results in the null subject being able to refer to an individual. It then merges with T to satisfy EPP.[5]

(13) [T [vP ϕP v [VP koş-uyor-um]
run-PROG-1SG

ϕ		ϕ
[-]val [-]int		[+]val [+]int
1st	←	1st
Singular	←	Singular
Neutral	←	Neutral
D	←	D
[-]val [-]int		[+]val [+]int

Note that according to Holmberg pro still exists. It is not a NP, but has a reduced structure. Therefore, it only projects ϕP.

3.2 Müller's impoverishment and Roberts' Deletion Analysis

The correlation between rich agreement and null subjects is seen as a unidirectional relationship between a rich agreement paradigm and existence of pro (Taraldsen's (1980) generalization), i.e. if a language has distinct markers for each person in any tense, it can have pro in its lexicon, otherwise not. (see Jaeggli & Safir 1989 and Rohrbacher 1999 for different construals of rich paradigm). For Müller (2005), on the other hand, paradigms are inaccessible to speakers, viz. they are not theoretical tools upon which UG can act. Rather, he offers a theoretical device to account for the relationship between agreement morphology and null subjects. He calls for the Impoverishment tool from Distributed Morphology (DM).

5 Holmberg mentions two more types of null subjects. One that projects DP and gets deleted where it can be recovered and one that has no ϕ-features. The first one is found in partial null subject languages and the second one is the classical pro found in radical pro-drop languages. Since I will be concerned with Agree-related consistent null subject languages, I will not go into further detail here. See Holmberg (2005: 553-54) and Holmberg and Sheehan (2010).

Impoverishment is a mechanism of DM where functional morphemes are impoverished for their features.[6] Say, for instance, α is a functional morpheme with XY α's feature specification ([α XY]) and β is a vocabulary item with X β's feature specification ([β X]) while γ is another vocabulary item with the feature specification XY ([γ XY]). In such a syntactic context, γ is a better candidate to be inserted to α than β according to the subset principle since it matches the features of α and is more specified than β.

(14) *Subset Principle:*

A vocabulary item V is inserted into a functional morpheme M iff (i) and (ii) hold:

(i) The morpho-syntactic features of V are a subset of the morpho-syntactic features of M

(ii) V is the most specific vocabulary item that satisfies (i).

(Halle 1997)

If impoverishment applies to α, deleting Y, γ ceases to be the better candidate. The morphological form [β X] now wins over [γ XY] for [α' X] impoverished. The system "retreats to the general case" – namely [β X] –, creating syncretism for [α' X] and [Ω X] which originally starts derivation with only X in its feature slot. Therefore, morphology fails to represent a syntactically relevant distinction (Baerman, Brown & Corbett 2005). On the surface, [β X] is ambiguous between [α' X] and [Ω X].

Rich agreement, Müller (2005) argues, is the lack of such impoverishment in a language. All syntactic information gets represented morphologically, forming highly diversified paradigms. He exemplifies his arguments on several languages including German. Note the German paradigm below from Müller (2005).

(15) a. Weak conjugation glauben ('believe')

	Present	Past
1.SG	glaub-e	glaub-te
2.SG	glaub-st	glaub-te-st
3.SG	glaub-t	glaub-te
1.PL	glaub-en	glaub-te-n
2.PL	glaub-t	glaub-te-t
3.PL	glaub-en	glaub-te-n

b. Strong conjugation rufen ('call')

	Present	Past
1.SG	ruf-e	rief
2.SG	ruf-st	rief-st
3.SG	ruf-t	rief
1.PL	ruf-en	rief-en
2.PL	ruf-t	rief-t
3.PL	ruf-en	rief-en

6 Impoverishment is a post-syntactic pre-morphological mechanism in DM. This would pose a problem for any syntactic account of null subjects – in addition to DM's other technical issues in the MP such as Inclusiveness Condition and Legibility Condition – since EPP cannot be satisfied with a post-syntactic mechanism. Although such a mechanism can be maintained if a path is taken to PF deletion of subjects, Müller (2005) takes the other path and assumes that impoverishment takes place in numeration, voiding the need for EPP.

c. Suppletive conjugation sein ('be')

	Present	Past
1.SG	bin	war
2.SG	bi-st	war-st
3.SG	is-t	war
1.PL	sind	war-en
2.PL	sied	war-t
3.PL	sind	war-en

(Müller 2005: 4)

German, where referential null subjects are banned, has four instances of syncretism due to impoverishment. I will only include the first two for reasons of space. 1.SG and 3.SG have the same morphological form in past tense while 1.PL and 3.PL have the same morphological form in all tenses. Müller (2005) argues that person feature sets are formed by two atomic features that can be ±1 and ±2.[7]

(16) [±1, ±2] gives person feature. Therefore,
- a. [+1, -2] = I
- b. [+1, +2] = We (inclusive)
- c. [-1, +2] = You
- d. [-1, -2] = He/she/it

Below are Müller's (2005) impoverishment rules for German:

(17) a. Delete [±1] in [±1, -2, -PL, +past] → [-2, -PL, +past]

b. Delete [±1] in [±1, -2, +PL] → [-2, +PL]

Put simply, (17a) deletes the [±1] slot if the syntactic context states that this is a non-second person and non-plural, and tense is past. This points to any person that is not second person in the past, nonplural portion of the paradigm. Since [±1] has been deleted, the derivation does not know if this is first or third person. Hence, any morphological form that does not distinguish between first and third person in non-plural past context can be inserted, creating syncretism.

7 The sets in (16) also include number and tense features, and possibly other features. See (15).

For instance, *-te* is inserted to the derivation for first and third person in the weak conjugation class (15a). (17b) performs the same operation in plural non-past context.

Müller (2005) argues that it is such ϕ-feature impoverishment of T or lack of thereof that constitutes the null subject parameter. Impoverished T cannot license argumental pro while non-impoverished T can. Müller (2005) hypothesizes that it is the very existence of impoverishment in a language that excludes pro. Accordingly, argumental pro is not licensed even if agreement is not syncretic in that specific derivation (vacuous impoverishment). Müller (2005) handles and solves some apparent problems with the impoverishment hypothesis, such as the case of Modern Irish where pro is licensed with relatively poor morphology on the verb and null subject languages without agreement morphology. Briefly, impoverishment is a module of UG. Hence, if it is available in a language, it creates system-wide syncretism. Müller (2005) shows that Modern Irish, an apparent counter-example to his proposal, lacks any system defining syncretism pattern. The pseuo-syncretism in Irish is randomly distributed homonymy (see Müller 2005: 12 for arguments and data). As for agreementless null subject languages, Müller (2005) argues that impoverishment cannot avail itself in a language which has no ϕ-features. As a corollary, pro can be available in agreementless languages.

Roberts (2010) combines several proposals, namely Holmberg's (2005) D-feature, A & A's (1998) pronominal T, Cardinaletti & Starke's (1999) weak pronouns and Müller's (2005) impoverishment. According to Roberts, UG only needs pronouns, and a phonetically and referentially deficient lexical item – namely pro – need not be listed in Lexicon. Pronominal T (in other words T^0 with a D-feature) and the subject pronoun are in an Agree relation where their unvalued features are valued via feature-copying by their valued counterparts, like DP subjects. Unlike DP subjects, however, a pronoun is *defective* relative to T since its feature set is a proper subset of T's feature set (see §5.1 for more on the internal structure of defective pronouns). Therefore, once pronoun's features are copied to T, its feature set is exhausted. This renders the pronoun on a par with lower copies of wh-phrases or of incorporated heads, and lower copies are deleted/never get phonologically represented, much like Nune's (2004) chain reduction. To this end, Roberts (2010) modifies Holmberg's (2005) architecture of null subject constructions.

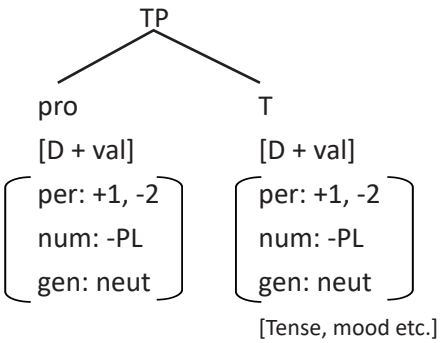
Recall that Holmberg (2005), Following Chomsky (1995), assumes that T has a (valued) D-feature. Inspired by Cardinaletti & Starke's (1999) idea of weak pronouns, Holmberg posits that the null subject is a phonologically empty ϕP, with an unvalued D-feature. It can value the uninterpretable ϕ-features of T, and T, in return, assigns definite interpretation to the null pronoun, followed by merger to Spec, TP to satisfy EPP. After Agree takes place, the null subject has referential features and therefore can refer to an entity or be bound by a higher DP, definite

null subject. Building on the same idea (D-feature on T), Roberts (2010) reverses the location of the value of D-feature, so that T has unvalued D-feature as long as it has a full set of ϕ-features and pronouns have a valued D-feature since they are full pronouns. In other words, D-feature of T depends on the completeness of its ϕ-features, and pronouns (null and overt) always have valued D-feature (Roberts 2010: 75 ff. 18). Yet they are (by assumption) defective Ds without NP.

The null subject parameter boils down to Müller's (2005) impoverishment principle that takes place in Numeration. Languages may impoverish the ϕ-set on T, which leads to the loss of D-feature on T. When impoverishment does not take place, pronoun is defective relative to T, and the defective lexical item is deleted. In other words, the bundle of feature sets in T outweighs the bundle of feature sets in the pronominal subject and disturbs the balance in favour of T, due to Tense/Aspect/Mood features on T (Sheehan 2016). The imbalance then leads to the deletion of the lighter bundle, the pronominal subject (Perlmutter's 1971 original proposal). These languages are the notorious null subject languages. The lack of impoverishment also results in rich agreement morphology on T. However, if impoverishment does take place, it deletes one or two features in the ϕ-set in T (see above). Roberts (2010) assumes that an impoverished ϕ-set has the effect of deleting the D-feature on T, in which case pronoun is no longer more defective than T. Therefore, these languages do not have agreement morphology (due to the impoverished ϕ-set), and they do not delete the pronominal subject since the feature sets of both lexical items are properly balanced. In summary, pronouns have a fixed number of features, which is fewer than those of T's. The balance of the scale is manipulated by Müller's (2005) idea of impoverishment of T. Below are examples from Turkish and German.

(18) a. ø koş-uyor-um
run-PRG-1SG
'I am running'

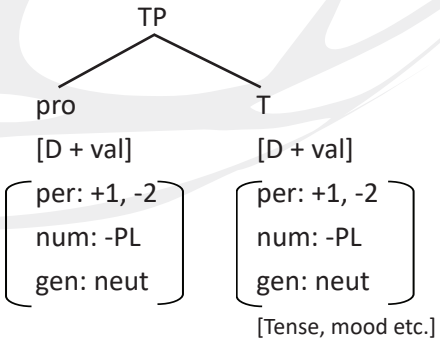
b.



(19) a. Ich glaubte

I believe.PST.1/3SG

b.



After Agree, the features of the non-impoverished T in (18b) outnumber those of pro, marking the relatively defective goal for deletion. On the other hand, the impoverishment rule for German (17a) deletes the ±1 slot in (19b), which leads to the loss of D-feature. The numbers are now equal on indiscriminate count. Pro remains for PF.

I will propose below an analysis of obligatorily overt subjects in Turkish worked out in Roberts' idea of deleting the relatively defective goal in Agree. I will also slightly modify the architecture in order to account for generic null subjects in Turkish.

4. Null and Overt Subjects in Turkish

Within the typology of null subject languages outlined by Holmberg (2005), Turkish is classified as a consistent null subject language in that all subjects in the subject paradigm can be null and referential not only in root clauses, but also in complement clauses, relative clauses, possessive NPs and adjunct clauses (Özsoy 1987). Turkish is also a rich agreement language, and agreement is often considered as the licenser of null subjects (Taraldsen 1980, Kornfilt 1984, Rizzi 1986). Although most subjects are null, some have to surface. The choice between an overt and null subject is governed by discourse principles. More precisely, null subjects in Turkish are so common that overt pronouns can only surface under strict discourse conditions (Göksel and Kerslake 2005, Erguvanlı-Taylan 1984, Kornfilt 1997). For instance, it has to surface when it is focused (20) or when it marks change of topic (21) (Öztürk 2001).

(20) A: Bakkal-a kim git-ti-ø?
grocery-DAT who go-PST-3SG
'Who went to the grocery store?'
B: Ben/*ø git-ti-m
I go-PST-1SG
'I did!'

(21) Ayşe ders çalış -tı -ø, ben de/*ø uyu-du-m
Ayşe.NOM lesson study-PST-3SG I top sleep-PST-1SG
'Ayşe studied lesson, and I slept'

However, it is necessarily null when it is not focused or when the topic continues, as in (22)-(23).

(22) A: Üniversite oku -du -n mu?
university study-PST-2SG Q
'Have you received university education?'
B: *Ben/ ø oku-du -m
I study-PST-1SG
'I did'

(23) A: Bakkal-a kim git-ti-ø?
grocery-DAT who go-PST-3SG
'Who went to the grocery store?'
B: Ben/*ø git-ti-m. Ama *ben/ø hiç bir şey al-ma-dı-m
I go-PST-1SG but I anything buy-NEG-PST-1SG
'I did! But I didn't buy anything'

In (22), if B's mere intention is to answer the question affirmatively, the subject is necessarily null. Having an overt pronoun in B's answer requires the sentence to continue with an echo question, such as *how about you*?, in which case the speaker is presenting a contrastive topic. Similarly in (23B), the second subject position is null unless B continues with *but Mehmet did!*

It seems that although Turkish has rich subject agreement, agreement is not the only condition at play for null subjects since subjects are necessarily null or overt under specific

discourse conditions (as Huang 1984 argues for Chinese).[8] Based on the observations above, Öztürk (2001, 2006) argues that Turkish is not an Agree-related null subject language; rather null subjects are licensed in their theta positions. To illustrate her point, Öztürk resorts to optional 3rd person plural agreement. Note that 3rd person plural agreement morpheme is not available in (24) and negation outscopes the subject while the subject outscopes the negation and appears to the left of a TP level adverb in (25), where we find agreement morpheme on verb.

(24) [CP[TP [NegP [vP bütün çocuk-lar [VP o test-e [gir-me -di]]]]]]
all child-PL that test-DAT take-NEG-PST
'All children did not take that test' (*all>not, not>all)

(25) Bütün çocuk-lar (Allahtan) o test-e gir-me -di -ler
all child-PL luckily that test-DAT take-NEG-PST-3PL
'All the children luckily didn't take that test' (all>not, *not>all)

(Öztürk 2006: 279)

Öztürk (2006) argues that subjects can stay in their theta position in Turkish, as in (24). But movement to a Case position is possible and triggers subject agreement, as in (25). However, apart from the fact that the phenomenon in (24)-(25) is limited to 3rd person plural – that is, all other subjects necessarily trigger agreement – it is also obligatory to have 3rd person plural agreement if the subject is null. Otherwise, the subject infelicitously refers to a definite singular 3rd person:[9]

(26) A: Çocuk-lar gel -di-ler mi?
child-PL arrive-PST-3PL Q
'Have the children arrived?'
B: ø gel-di-ler
arrive-PST-3PL
'They have arrived'

B': ø gel-di
arrive-PST
'He/she arrived'

8 As a matter of fact, this has been attested for some other null subject languages. For example, Duguine (2012, 2013) shows that Basque has both Agree-related null subject and discourse-related null subject. She further argues that both types have the same underlying licensing condition: Case-marking. Grimshaw & Samek Lodovici (1998) offer an Optimality Theory based account of overt subjects in Italian where a subject not marked (old) topic (therefore presenting new topic) violates hierarchically lower constraints when it is overt than when it is null, due to the order of relevant constraints which are parameterized among languages. Accordingly, the overt subject variety wins over the null subject variety when the subject pronominal is the new topic in Italian.

9 Also see İşsever (2007) for a critique of the data. He notes that the scope facts in (24)-(25) aren't as clear as Öztürk claims. My judgments, however, are parallel to Öztürk's. The major problem here, I believe, is that null subjects can license agreement as I show in (26).

If agreement marking is triggered by movement to a Case position, the null subject in (26B) seems to be in a Case position. Therefore, I continue to assume that pronominal subject appears in a position higher than Spec, vP. The overt/null distinction, on the other hand, should be due to discourse conditions. As a matter of fact, Öztürk (2001) posits that overt pronouns in Turkish – that is, topicalised and focused subjects – are highly marked and appear in TopP and FocP in the C domain. I show below an integration of focus-topic construal of overt subjects with Roberts' (2010) idea of balance between a pronominal and its ϕ–bearing probe. However, I will not discard Öztürk's original idea – that Turkish is not an Agree-related null subject language – entirely. As a matter of fact, I will argue for basically the same idea: Turkish is not an Agree-related consistent null subject language.

5. Proposal

I deviate from Müller's (2005) conception of number, gender and computation. Although person seems universal among languages, number and gender have different manifestations. UG makes available – as far as we know from cross-linguistic surveys – at least six different types of number: singular, plural, dual, trial, quadral and paucal, which roughly corresponds to "a few".[10] Gender seems more complicated than that. It may be sex-based as well as non-sex based. In other words, it is more like noun classification where there may be various categories nouns fall into than assigning arbitrary genders to entities. Fedden and Corbett (2017) report that the number of genders in the languages of the world varies between 2 and 20. Animate/inanimate, small/big, plant/non-plant are some of them. This suggests that practically all languages are impoverished if computation directly accesses UG. For example, gender specification in Turkish (and all Altaic languages) is not neutral, it is non-existent. Neutral requires an opposition in the paradigm, but Turkish lacks gender marking in any form. Furthermore, number agreement is optional for human subjects and results in illicit sentences with non-human subjects. Yet Turkish licences null subjects. Interestingly, Müller (2005) only employs person impoverishment for German paradigms. I will take a step further and argue that it is only person feature that is involved. In a similar vein, I will reduce person pronouns to person features.

I argue, along with Sheehan (2006, 2015), that subjects are overt in consistent null subject languages due to the fact that topic/focus feature manipulates Roberts' (2010) scale, i.e. constitutes non-recoverable information should the subject pronoun be deleted. Yet, there are two crucial points I disagree with Sheehan (2006, 2015) and Roberts (2004, 2010). First, I

10 See Corbett (2004) and Velupillai (2012) for a thorough and cross-linguistic review of number.

deviate from them in that deletion takes place in Spec, AgrP in rich agreement languages while matters are dealt with in the phrase co-headed by T and Agr in languages where agreement is impoverished. The tense/agreement syncretism, I argue, is due to impoverishment. Second, I offer to simplify the system by assuming that person impoverishment is enough to manipulate the scale. This brings about a change in the formulation: pronoun is deleted when it is identical to Agr, rather than when it is defective relative to a bundle of features. I assume that ϕ-set is not a single feature, but each ϕ-feature counts separately.

5.1 Internal Structure of Pronouns

In §5.2 I elaborate on the phrase bearing ϕ-features in null subject languages, AgrP or TP. However, any proposal working on two sides of a scale needs to elaborate on both. Since the features of person pronouns dictate the schema, I start with the features carried by pronouns.

Before we start, a clarification is in order. The standard account of the difference between a full DP such as *the man* and a pronoun is that pronoun is the culmination of ϕ-features equipped with a definiteness feature. It, therefore, denotes a specific coordinate point in the discourse, namely the speaker, the addressee or any third person residing the point where singular/plural and male/female axes intersect. The ϕ-features specify the coordinates while definiteness requires that the participant be salient in discourse. On the other hand, full DPs include a lexical item, *man* in *the man*, that specifies the range of the DP. In other words, it has a non-paradigmatic part that corresponds to loosely defined properties of entities.

Roberts' (2010) and Holmberg's (2005, 2010a,b) theory of null subjects requires a unified treatment of pronouns since null subject languages are characterized by an ability to drop the full paradigm of subjects in any tense. According to Roberts (2010), pro is a $D^{min/max}$. It follows that all pronouns are single Ds that bear ϕ-features and project a DP. DP with a single D head that bears ϕ-features makes several predictions concerning its morphological and syntactic features. A cross-linguistic survey of pronouns shows that first and second person pronouns have different sets of syntactic and morphological features than third person pronouns, which can be accounted for by which nominal features they bear (Baggaley 1998 and Ritter 1995, Déchaine & Wiltschko 2002, Postal 1966). Briefly, if a pronoun is a single D, it i) cannot be modified by a possessor ii) can modify nominals iii) has irregular plural forms. Let us see how each one relates to the definiteness feature and how they fare in a null subject language, namely Turkish.

Noguchi (1997) shows that if a pronoun is made up of a single D, it cannot be the possessee in a possessive construction since the pronoun and the possessor would compete for the same

position. For example, the Japanese third person pronoun *kare*, he argues, is not a DP, rather a NP. Therefore, it can be possessed. None of Turkish pronouns, on the other hand, can be possessed.

(27) watasi-no kare
I-GEN he
'My boyfriend'

(Noguchi 1997: 777)

(28) a. *Sen-in ben-in
2SG-GEN I-2SG.POSS
b. *O-nun sen-i
3SG-GEN you-3SG.POSS
c. *Ben-im o-m
1SG-GEN she-1SG.POSS

Therefore, Turkish person pronouns come out as single Ds from Noguchi's possessee test. However, they behave non-uniformly in the other tests. If a person pronoun is a D, it should be able to take NP complement. However, Baggaley (1998) observes that Turkish person pronouns, along with their English counterparts, comply with this prediction in first and second persons while third person disallows NP complements:

(29) a. Biz tüccar-lar
1PL merchant-PL
'We tradesmen'

b. Siz tüccar-lar
2PL merchant-PL
'You tradesmen'

c. *On-lar aptal-lar
3-PL idiot-PL
'*They idiots'

(Baggaley 1998: 25-67)

Baggaley goes on to argue that first and second person pronouns in English and Turkish are Ds while third person pronouns are D+Num. This is evidenced in her final test on the plural forms of pronouns. She argues that it is only compatible with the single D argument that first and second person plural pronouns are portmanteau forms (see 30). Since these pronouns do not have NumP, they do not allow plural suffixes. Third person, on the other hand, can be suffixed with the plural suffix *-lAr* (see 30), which suggests that it has an empty Num head that is filled for the plural form.[11]

11 There is a noticeable regularity in the first and second person plural pronouns: the *z* at the end, which used to be the plural suffix in old Turkic. However, Turkish no longer has a productive plural suffix realized as *z*. The archaic form is known to be the plural part of some words which show organs that come in pairs and can be made plural by the now productive plural suffix *-lAr*, such as *omuz* (shoulder), *göz* (eye), *diz* (knee) (Uzun 2004: 126-127).

(30)

Turkish person pronouns

	SG	PL
1.	Ben	Biz
2.	Sen	Siz
3.	O	On-lar

This either means that in addition to single Ds, D+Num cannot be possessed (28c) or that Turkish third person is $\phi^{min/max}$ which allows the plural suffix. The latter suggests that third person does not have a D-feature.

Luckily, there is a test intended to figure out if a pronoun has a D-feature. If a pronoun has D as the root in a complex phrase, in other words, if it somehow has a definiteness feature– single or coupled with other heads – , it can act as a bound variable (Noguchi 1997 and Déchaine & Wiltschko 2002). Noguchi (1997) argues that since functional categories show intra-linguistic coordinates they can vary under quantified expressions while nominal categories can only (co-) refer as they specify a singular range.

Turkish third person pronoun disallows bound variable reading, which indicates that it is $\phi^{min/max}$.[12]

(31) Herkes$_i$ onun$_j$ evine gitti
Everyone his house went
'Everyone$_i$ went to his$_j$ house'

This leaves us with a need to explain (30) and with a clue to the exact mechanism of null subjects as pronoun deletion. I argue that person pronouns are the morphological realization of ϕ-features, of person and number in Turkish. First and second person plural pronouns come as syncretic forms from the lexicon while third person is pluralized in syntax through NumP. In other words, first and second persons are single Per while third person is Per+Num. This accounts for the data in (28)-(30) since two persons compete for the same position in (28) and

12 A reviewer notes that (31) allows co-indexation if the third person pronoun is replaced with its null variant. This is unexpected when one argues for post-syntactic deletion. Note, however, that I will be arguing in §5.2 that null and overt variants of person pronouns originate in Numeration with different sets of discourse-related features. That is, they are not identical in narrow syntax. I am aware that this requires an explicit account of how the null pronoun, the non-focused variant, can be a bound variable. I am leaving this to future research.

there are two Num heads in the same domain in (29c). Yet this is not simple relabeling of D as Per. D, being a functional head, should allow bound variable reading, which doesn't account for (31). Per, on the other hand, is not a functional head and accounts for the lack of bound variable reading in (31). It follows that ϕ is not a single bundle, it has a 'fine structure'. It is the person feature that is matched since Per is the only feature available in all persons, and D-feature is not in play anymore.

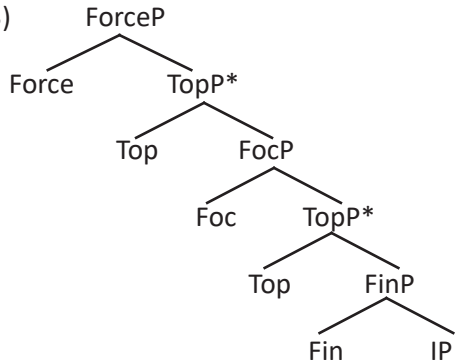
5.2 Deletion under Identity

I follow Öztürk (2001) and assume that overt subjects in Turkish bear [+topic] or [+focus] feature and move to respective phrases in the C-domain. Yet I deviate from her line (Öztürk 2006) in arguing that all subjects, overt or null, are in the spec of a ϕ-bearing head (see §3). Some delete in this position while others move on to a criterial position in CP. As such, I adopt Rizzi's (1997, 2006) fine-grained CP organization similar to Pollock's (1989) split IP. After a careful consideration of the data in Italian, Rizzi (1997) concludes that CP is actually a domain that consists of five phrases, three of which are discourse-related. It has Finiteness Phrase (FinP) at the bottom and Force Phrase (ForceP) at the top. In between lie two topic phrases and a focus phrase. Regarding the order of topic and focus, Rizzi shows that Topic Phrase (TopP) can have multiple occurrences below and above Focus Phrase (FocP). As a result, more than two constituents can be topicalized below and above a focalized constituent, see (32).

(32) …Top Top Foc…/ Foc Top Top…

Ultimately, Rizzi shows that CP has a 'fine structure' as in (33) where asterisk shows the topic phrases that can iterate.

(33)



(Rizzi 1997: 297)

Regarding the implementation of movement to C-domain, Rizzi (2006) adopts a slightly different probe-goal relation than Chomsky by not resorting to the interpretable/uninterpretable contrast in the Case/Agreement system. Uninterpretable ϕ-features are the trigger of A-chain in IP. They Match and Agree with their interpretable counterparts in the subject NP in Spec, vP, attracting it to their edge (Chomsky 2000). A'-chain in the C-domain, on the other hand, is the result of the interpretational aspects of the sentence, such as question, focus, topic etc. In this type of probing, each probe has an interpretable criterial feature looking for an interpretable criterial feature in a goal. For example, Foc^0 bears an interpretive feature stipulating that its spec be focused. Once it is merged, it probes its complement domain and matches a [+focus] marked lexical item which is later merged to Spec, FocP, pied-piping the constituent it is found in. Rizzi (2006) assumes that Foc^0 and Top^0 are freely assigned respective features (possibly in Numeration along with ϕ-features), so that no problem arises regarding Chomsky's (2000) Inclusiveness Condition. It follows that topic/focus bearing NPs should be assigned such features in Numeration.

Rizzi (1997) argues convincingly that topicalized and (contrastively) focused elements move to respective spec positions in Italian when they are preposed:

(34) a. Il tou libro, lo ho comprato
"Your book, I bought it"
b. IL TOU LIBRO, ho comprato t (non il sou)
"YOUR BOOK, I bought (not his)

(Rizzi 1997: 289-290)

According to Rizzi, the topicalized object in (34a) is at Spec, TopP while the focalized object in (34b) is at Spec, FocP.

I remarked above that I intended to deviate from Roberts' (2010) and Sheehan's (2006, 2015) system of pronominal deletion. They argue that subject pronominal is at Spec, TP while D-feature and ϕ-features are hosted by T^0. I differ in that T cannot be the head that allows deletion in rich agreement languages for empirical reasons. In Kuram (2015), I show, based on data from a non-finite adjunct clause type, that AgrP is empirically motivated in Turkish, to Chomsky's (1995) dismay. *-Ip* is a gerundive suffix found on a non-finite adjunct clause that is semantically bleached (Slobin 1995, Johanson 1988, 1995 and Erdal 2004). *-Ip* has no semantic content of itself. As such, *-Ip* clauses cannot stand alone in the absence of an independent functional structure, for example as an answer to a question. See (35).

(35) A: Adam ne yap-ıp git-ti -ø?
man.NOM what do-Ip go-PST-3SG
'What did the man do and leave?'
B: *Gül-üp
laugh-Ip
B'. Gül-üp git-ti -ø
laugh-Ip go-PST-3SG
'He left laughing'

I hypothesize that *-Ip* clause has to copy the functional features of the matrix clause in order to validate itself:

(36) Bu insanlar [suç işley-ip] günahkar ol -du-lar
these people crime commit-Ip sinner become-PST-3PL
'These people committed a crime and became sinners'

The *-Ip* clause in (36) has the exact same aspecto-temporal interpretation as the matrix clause and its subject is co-referential with the matrix subject (necessarily null due to Chomsky's (1981) avoid pronoun principle).[13] *-Ip* clause, it follows, should adjoin to a position higher than VP but lower than the functional structure, receiving its interpretation from the matrix IP via, I argue, inheritance of ϕ-features and interpretational features, namely Tense/Aspect/Mood features.[14] However, since both Tense and subject are shared in (36) it doesn't give us any insight into the organization of Tense and ϕ-features. Although Tense and agreement are recognizably separate morphemes in Turkish, there doesn't have to be a one-to-one correspondence between morphology and syntax (Giorgi & Pianesi 1997 and Tosun 1998). To be more precise,

13 See Aydın (2004) for an argument that this is a PRO position. That argument, however, doesn't suit here since I argue that -Ip clause inherits ϕ-features from C-T, which also accounts for the fact that -Ip clauses can have overt subjects (See Kuram 2015).

14 -Ip clauses can adjoin to almost any phrase from VP at the bottom to TP at the top with different scope relations. As a matter of fact, it can go so low and high that it can form a serial verb construction with the matrix verb at the bottom and at the top it can become what could be dubbed parataxis. I argue in Kuram (2015) that whether the -Ip clause is in a serial verb construction, an adverbial clause or parataxis simply depends on where it is adjoined. Still, I am here interested in the so-called adverbial clause function, which adjoins to a phrase in the mid-section.

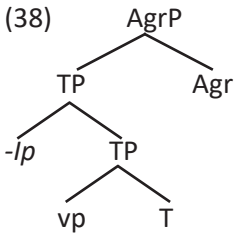
Tense and ϕ-features can be hosted in a single head, which is targeted by the copy operation.[15] What we need is an example where the *-Ip* clause shares the subject but not the Tense with the matrix sentence, separating TP and the ϕ-bearing head, Agr. Then we can argue that it adjoins to Spec,TP, escaping from the complement domain of T, remaining lower than Agr. This will also show that AgrP exists independently of T. As a matter of fact, *-Ip* clauses are found in such sentences:

(37) a. Dün Ayşe'den hoşlan-ıp bugün Fatma'ya aşık ol -uyor-sun
yesterday Ayşe-ABL like-Ip today Fatma-DAT fall.in.love-PRST-2SG
'You liked Ayşe yesterday and today you are in love with Fatma'

b. Dün söz ver-ip bugün yap-mı -yor-sun
yesterday promise give-Ip today do -NEG-PRST-2SG
'You promised (me) yesterday but today you are not doing it'

(38) is the only configuration where the *-Ip* clause can copy (via inheritance, scope or any other mechanism) the ϕ-features without copying the Tense feature.

(38)



For the reasons discussed above, I argue that subjects in Turkish raise to Spec, AgrP and Spec, TP is reserved for temporal adverbs. There is another problem that concerns Roberts' (2010) formulation: Weight and indiscriminate counting of features do not seem to have a place in the theory. As a matter of fact, Roberts (2004) and Sheehan (2006) (for an earlier version of

15 Giorgi & Pianesi (1997) state that T and Agr co-head the phrase dominating vP in languages where these features are represented by a single morpheme, i.e. form a syncretic phrase. Syncretism can be the result of impoverishment where impoverished ϕ-set cannot remain as an independent head. Only full ϕ-sets can project. Rich agreement languages act otherwise, such as Turkish. Each person has a different marking independent of Tense. Yet rich agreement paradigm is only a morphological piece of evidence. (37) below is the syntactic evidence of independent agreement.

the idea where D deletion hasn't been introduced yet) formulate the condition for deletion of pronoun under identity where identity refers to a subset relation. Sheehan states "[…] The result of the fact is that after Agree, the pronoun is non-distinct to the head I [T] being a subset of its formal features" (Sheehan 2006: 223). Therefore, I will reformulate the identity argument in AgrP for rich agreement languages.

I argue that ϕ-impoverishment – more specifically person impoverishment – is enough to set the stage for deletion or non-deletion. Although D-feature can be kept for theoretical reasons (or disposed of completely), its status seems questionable. In other words, although it is a requirement of the design that accounts for definite null subjects, D-feature in T makes empirically incorrect predictions. According to Holmberg (2005, 2010a,b) null pronouns are D-less ϕPs. When they are probed by a D-valued T, the result is a definite null pronoun, the case in rich agreement languages that have a D-feature in T. Yet when they are probed by a D-less T, that is in partial null subject languages, since neither has a definiteness feature, the result is an inclusive generic null pronoun. This seems to be a justification for D. Drawing on this, Holmberg (2010a,b) concludes that no consistent null subject language should have a generic null pronoun in finite clauses since D-valued T will render the null subject definite. However, this is defied by Turkish data, though in a limited way. Turkish necessitative marker licenses generic null pronouns as well as definite ones.[16] See (39)-(40).[17]

(39) ø beni ya sev-meli-ø ya öldür-meli-ø
me either love-NEC-3SG or kill-NEC-3SG
'One should either love me or kill me'

(40) Kriz zamanlarında, ø sakin ol-malı-ø, ø devlete güven-meli-ø
In times of crisis, calm be-NEC-3SG government trust-NEC-3SG
'In times of crisis, one should be calm and trust the government'

16 Apparently, Turkish is not the only consistent null subject language that allows generic null subjects. Fassi Fehri (2009) reports such a case for Arabic, and Krezk (2013, 2017) reports that Polish, though limited to a specific construction like Turkish, does have generic null subjects. See §5.3 for Fassi Fehri's and Krezk's data.

17 This is confined to necessitative mood. Prediction, for example, results in ungrammaticality with generic reference.

(i)* ø beni ya sev-er -ø ya öldür-ür-ø
me either love-PRE-3SG or kill- PRE-3SG

intended 'One would either love me or kill me'

At a face value, (39) and (40) look like distribution of a piece of advice in present tense – an indefinite tense – leading to generic interpretation of the subject. But given the right context, generic null subjects are also found in past tense, and past is definite.

(41) Ülke zor günlerden geçiyordu ve __ acilen önlem al-malı-ydı-ø
and urgently precaution take-NEC-PST-3SG

'The country was going through an ordeal and someone had to take precautions urgently'

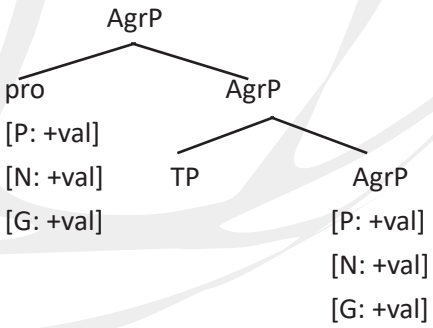
Furthermore, that this is a proper θ-bearing subject is evident by the fact that it can bind and control.

(42) a. Soğuk havalarda, ø sıkı giyin-meli-ø, ø kendine dikkat et-meli-ø
warmly dress-NEC-3SG self care take-NEC-3SG
'In cold weather, one should dress warmly and should take care of oneself'
b. Yokluk zamanlarında, ø sabırlı ol-malı-ø, ø dayanmaya çalış-malı-ø
patient be-NEC-3SG endure try-NEC-3SG
'In times of poverty, one should be patient and try to endure it'

(39)-(42) cast doubt on universal D in the T of null subject languages. Furthermore, I argued in §5.1 that person pronouns only bear ϕ-features and I show in §5.3 that Per in first and second person functions as D while third person is definite through another mechanism. This makes it unnecessary to have D in T or pro. While this solves the problem in (39)-(42), it raises another. I will come back to this with a solution in §5.3.

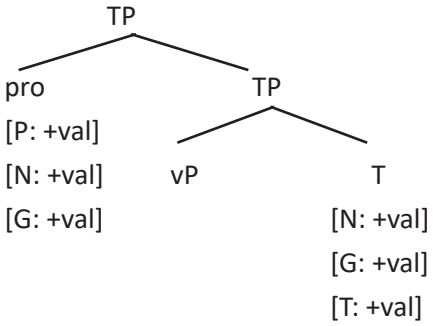
The scenario unfolds as follows: any non-focused, non-topicalized pronominal originates in Spec, vP. The uninterpretable ϕ-features in Agr probe and match the interpretable ϕ-features of the pronoun. After Agree, features are exchanged and subject moves to Spec, AgrP. This is the Case position of subject. (43) is the relevant picture of subject deletion in a non-impoverished language, assuming impoverishment is person impoverishment and lack of Gender marking in a language such as Turkish does not interfere.

(43)



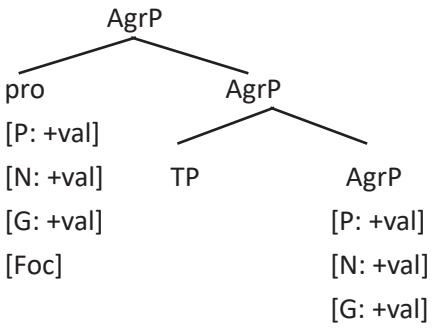
Banning pronominal deletion, impoverishment, on the other hand, should look like (44) assuming it is the person feature that undergoes impoverishment in, for example, German (See§3.2). Impoverished ϕ-set results in morphological and syntactic syncretism where ϕ and TAM features co-head the same phrase.

(44)



Finally, (45) is a topicalized/focused subject construction in a non-impoverished language, again disallowing deletion.

(45)



(43)-(45) require rewriting the deletion rule. (46) seems operational within the current data.

(46) If, feature-wise, subject pronoun and Agr are identical, delete the pronoun.

(46) accounts for the null subject facts in (43)-(45). The subject pronoun is overt in (44) and (45) since T and Agr lack some features that the pronoun has: person in (44) and focus in (45). It is, however, deleted in (43) (non-focused sentences of non-impoverished languages) where feature sets are identical. This looks like a stipulation where it is the subject that is deleted in the case of equality. I offer to trade it with Roberts' (2010) stipulation that D is lost due to ϕ-impoverishment. The net result of the new proposal is its conformity to the data in (37). Furthermore, the other option – i.e. deleting Agr – is not so far from facts. Turkish has two syntactic contexts where agreement can be dropped, and one where it has to be dropped. First, agreement can be deleted in Turkish possessives if the possessor is overt (47c).

(47) a. Ben-im araba-m
I-GEN. car-1SG.POSS
'My car'

b. ø araba-m
car-1SG.POSS
'My car'

c. Ben-im araba
I-GEN. car
'My car'

Second, 3rd person plural agreement is optional in Turkish if the subject is overt (Öztürk 2006, also see §4) (compare 48a-b). Furthermore, it is obligatorily dropped if the subject is inanimate (compare 48c-d).[18]

(48) a. Öğrenci-ler git-ti-ler
student-PL leave-PST-3PL
'The students left'

b. Öğrenci-ler git-ti
student-PL leave-PST
'The students left'

18 This is overridden by personification where inanimate entities are treated as human, a figure of speech.

c. *Bina-lar yıkıl-dı-lar
Building-PL come.down-PST-PL
d. Bina-lar yıkıl-dı
Building-PL come down-PST
'Buildings came down'

Finally, Kornfilt (1986) remarks that if a nominal compound in Turkish is embedded in a possessive construction, the agreement morpheme of the compound is deleted due to the possessive agreement.

(49) a. Yarış araba-sı
race car-AGR
b. Benim araba-m
my car-1SG.POSS
c. *Benim yarış araba-sı-m
my race car-AGR-1SG.POSS
d. Benim yarış araba-m
my race car -1SG.POSS

(Kornfilt 1986: 60)

Kornfilt argues that deletion in (49d) is triggered by the categorial identity of the two morphemes. Although the last argument is not deletion under ϕ-related identity with a pronoun, these show that Agr is not immune to deletion.[19] Therefore, formulating deletion under identity rather than superset/subset relation seems promising since deletion can be symmetrical. It also points to the conclusion that a language can choose between deleting the subject or the agreement in all cases. That is, a particular language can be parameterized wholesale. Alternatively, UG can specify the conditions under which a specific item is deleted under identity. This means a specific parameter value can span across languages. For Turkish, it seems that it is the subject in clauses and the agreement in possessive NPs that is deleted under identity.

19 Kunduracı (2013) argues that -sI in (49a) is not an agreement marker; rather it is a formative of the morphological component of language. If she is right, this weakens the last piece of evidence for symmetrical deletion.

5.3 Where is Definiteness?

So far, everything seems to work except for the fact that lack of D in Agr or pronominal predicts falsely that all null subjects should be generic. But this is not the case. As a matter of fact, all first and second person null subjects are definite while third person can be definite or generic. The solution was hinted throughout. Since it is the type of person that makes the difference, that is where the answer lies: All persons are equal in the standard treatment, but some persons are more equal than others in this paper. I will argue in this section that the difference lies in whether person has a salient antecedent beyond traditional clause boundary. I will have to resort to syntax-pragmatics union. Eventually, I will reach a marginal conclusion: Turkish is not an Agree-related consistent null subject language.

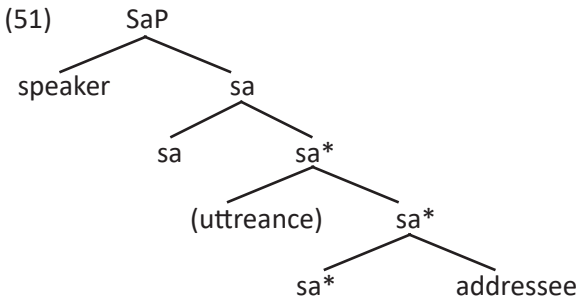
Natural languages allow for three persons: the person speaking (speaker), the person listening (addressee) and the person the speaker and addressee are talking about. The main difference is that the speaker and addressee are obligatorily available in a speech environment while third person is not necessarily part of the conversation. Therefore, speaker and addressee are the members of the speech act while third person is non-member. The former are known as indexicals since they can be singularly pointed at during conversation (see, for example, Schlenker 2003). However, third person is a range that can be anything but the speaker and the addressee. Indexicality constitutes a wide literature, especially on what happens when indexicals appear in finite embedded clauses. Briefly, they show the speaker and addressee in root clauses. However, when they appear in finite embedded clauses, first person shifts to show the matrix subject under attitude verbs (50) while second person shifts to show the matrix addressee under verbs of saying (see Shklovsky & Sudo 2014 for the syntax of indexical shift). Although this is parameterized among languages – shifting vs. non-shifting languages – this pattern resembles binding where the variable is bound by the closest c-commanding antecedent.[20] The fact of the matter is that first and second persons are subject to binding by speaker and addressee, the obligatory participants of discourse while third person isn't.

(50) Ahmet$_i$ [ø$_i$ çok zeki-yim] sanıyor
Ahmet very smart-1SG thinks
'Ahmet$_i$ thinks he$_i$ is very smart'

20 This also correlates with null subjects in Turkish, a shifting language, since indexical subjects only shift when they are null (Gültekin Şener & Şener 2011).

Until recently, common conception about speaker and addressee was that they were part of the pragmatic component that did not interact with the hierarchic organization of syntax. The members of discourse were in a chaotic domain where their affairs with each other were pretty much randomly handled without structure. Speas and Tenny (2003) came up with an interesting idea, however. They argue that pragmatic roles (speaker and addressee) and utterance are just like the arguments of a ditransitive verb. That is to say, speaker and addressee are part of syntax-pragmatics, and pragmatic roles are configurationally determined the way θ-roles are assigned. For Speas and Tenny, speaker and addressee are the arguments of Cinque's (1999) Speech Act Phrase (SaP). (51) is their syntactico-pragmatic tree of a declarative.

(51)



(Speas and Tenny 2003: 320)

Different combinations of the arguments in the restricted and hierarchic structure in (51) yield different speech act functions, such as question, subjunctive and imperative (see Speas and Tenny 2003 for details and see Kuram 2020 for how this relates to first and second person indexicals). I subscribe to the core idea here and assume that speaker and addressee are higher arguments that bind the first and second person, giving them definiteness. This eliminates the need for a D-feature so that a pronoun has a denotation in real world. For one thing, first and second persons never need a denotation in real world. They only need to be indexically bound by speaker and addressee within discourse. I argue that person feature alone is enough to co-index the pronoun and the pragmatic role bearer, namely speaker or addressee. To restate and simplify, first and second person are minimal index bearing lexical items, single Pers where [+1,-2] is the index of speaker and [-1,+2] is the index of addressee. Therefore, they always denote the deictic members of discourse, speaker and addressee. They are deleted as discussed in §5.2 unless they have focus and topic features.

We still need an account of how third person null subjects in Turkish can be definite or generic. For this, I will invoke an idea proposed by Holmberg (2010b). Holmberg (2005) shows

that Finnish, a partial null subject language, allows definite third person null subject "when it is bound by a higher argument, under conditions that are rather poorly understood." Otherwise, they are generic. Later, he adds (Holmberg 2010b) that Italian, a consistent null subject language, requires that third person null subject have an antecedent that features as the topic of the higher clause or of the previous root clause in discourse (see (52)-(53)).

(52) Pekka$_i$ väittää [että hän$_{i'j/}$ ø$_{i/*j}$ puhuu englantia hyvin].
Pekka claims that he speaks English well
(Holmberg 2005: 539)

(53) a. Questa mattina, la mostra e` stata visitata di Gianni.
this morning the exhibition was visited by Gianni.
P`ıu tardi *ø/egli/lui ha visitato l'universita`.
Later he/he visited the university
'This morning the exhibition was visited by Gianni. Later he visited the university.'

b. Questa mattina, Gianni ha visitato la mostra. Piu tardi ø ha visitato l'universita.
this morning Gianni visited the exhibition. Later visited the university
'This morning Gianni visited the exhibition. Later he visited the university.'
(Holmberg 2010b: 96)

This was also noted for Turkish by Göksel and Kerslake (2005) who listed the conditions under which Turkish did not allow a null subject. Göksel and Kerslake (2005) show that if a non-subject third person is promoted to the subject position in the following sentence, it has to surface. That is to say, third person null subject requires a topic argument in the preceding sentence. If the antecedent is non-topic (non-subject) the structure is illicit, and the subject has to surface to salvage the situation. Note the example in (54).

(54) Berk Merve'ye çiçek almış. *ø/O çiçek sev-me-z ki.
Berk Merve-DAT flower bought. She flower like-NEG-AOR
'Berk bought flowers for Merve. She doesn't like flowers'

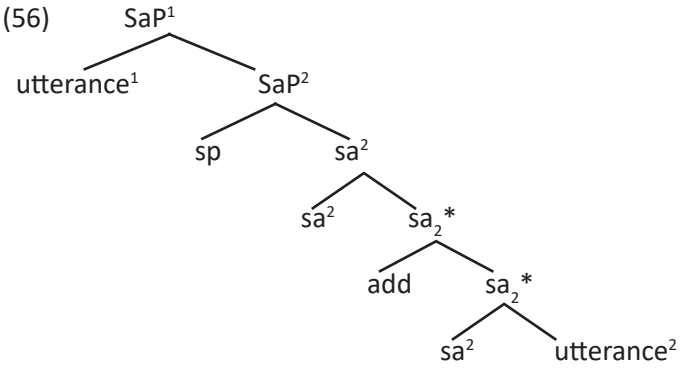
Holmberg (2010b) proposes that third person null subjects are bound by a referential NP in the preceding sentence via A-chain (55). This is the higher argument in (52) and the topic argument in (53b) and (54). This is to say that third person null subjects are licensed across traditional clause boundary. Note that this accords with the fact that third person null subjects are infelicitious in out of the blue contexts while first and second person null subjects are acceptable anywhere.

(55) [CP <Gianni$_1$> [questa mattina Gianni$_1$ ha visitato la mostra]].
[CP < ø$_2$> [piu tardi ha ΦP$_2$ visitato la mostra]]
1=2

(Holmberg 2010b: 96)

I argue that this is the way to go for generic third person null subjects in Turkish.[21] First, I set the stage for cross-clausal binding in discourse and assume the structure in (56) at the expense of losing the explanatory power of the original structure proposed by Speas and Tenny (2003) for sentence types other than declarative, assuming that the two versions of the idea can be reconciled in future research.[22]

(56)



Third person null subject in utterance^2 will be properly A-bound by the NP in utterance^1 as long as there is one. What happens when there isn't?[23] The sentence is either ungrammatical or the null subject is interpreted as generic since UG doesn't have a D-feature anywhere, and there is no higher referential NP to bind the null subject. Therefore, we can speculate that third person null subjects are ungrammatical in all languages unless they are either A-bound by a higher referential NP or interpreted generic. Since there is no such thing as a D-feature and third

21 This is similar to yet more articulate than Frascarelli's (2007) aboutness-shift topic in the C-domain since it also accounts for first and second person null subjects, an issue Frascarelli left for future research.

22 Note that addressee does not c-command utterance in (51) where second person null subject would appear, hence the adjustment in (56).

23 It is important to note that I tacitly argue that speaker and addressee cannot be unavailable in a conversation since the speaker cannot be unaware of himself and the addressee, but the previous utterance can be forgotten, mistaken for another utterance, or it can be unavailable all together (out of the blue situations). This resembles the argument-adjunct distinction in the syntactic domain.

person is not an obligatory argument of discourse, languages are not supposed to allow definite null third person subjects. Finally, one of the defining tenets of partial null subject languages, namely the generic interpretation of third person null subject that is allowed in Turkish (39)-(42), is not part of the null subject parameter. It is the end result of a syntactic mechanism which is widespread in partial null subject languages but restricted to necessitative mood in Turkish. It follows, therefore, that Turkish, and presumably all consistent null subject languages, are in fact discourse related (Öztürk's original propopsal but with different arguments). First and second person null subjects are licensed by the speaker and addressee in discourse while third person is licensed by the NP in the previous sentence which appears as a higher Speech Act Phrase. The languages are parameterized according to whether the subject is interpreted generically or rendered ungrammatical when such binders are unavailable. Turkish necessitative is a gateway from the system that accepts either. In other words, it can license its subject via a higher NP the way all the other TAM markers in Turkish and all the TAM markers in partial null subject languages do (definite null subject interpretation) and it can interpret its subject generically unlike the other TAM markers in Turkish and like all the TAM markers in partial null subject languages.

One final note is needed on why it is the necessitative that allows generic null subjects in Turkish and how it switches between generic and definite interpretation of its subject. Theoretical argument for this can be brought from the observations of Fassi Fehri (2009) and Krezk (2013, 2017). Fassi Fehri argues that Arabic, a consistent null subject language, has generic third person null subject, yet only in passive voice. Krezk (2017), however, argues that the so-called generic null passive in Arabic does not display the properties of canonical passives since it assigns accusative Case and does not allow a *by*-phrase. She then argues that it is similar to the 'active indefinite' -NO/-TO construction in Polish, which does not allow passivization and a *by*-phrase. See (57)-(59).

(57) wa-y-u-xraj-u la-hu yawm-a l-qiyaamat-i kitaab-an
and-3-pass-bring to-him day-acc the-resurrection-gen book-acc
'And someone brings to him a book the day of the resurrection.'

(Fassi Fehri 2009: 9)

(58) Bywano tam często
were.IMPERS there often
'[One/They] used to come/be there often.'

(Krezk 2017: 14)

(59) (*było) znaleziono niemowlę w kozsu (*przez lekarzy)
AUX.PST found:IMPERS baby:ACC in basket:LOC by doctors
'A baby was found by doctors in a basket'

(Krezk 2013: 194)

While Fassi Fehri (2009) conjectures that generic null subjects in Arabic are in the spec of Passive Phrase, Krezk (2013) concludes, for the reasons discuseed above, that Voice is a cover term which may be realized as active voice, passive voice or active impersonal and that pro in such constructions is in spec-VoiceP. It follows that it is the active impersonal that is merged in (57)-(59). Active impersonal is active since it allows accusative on object and doesn't promote it. But it behaves like passive in the sense that it doesn't allow further passivization since the active impersonal morpheme -NO/-TO already occupies the head of VoiceP (59). Both would concur that it has be something other than the canonical active voice of two or three-place predicates.

However, Turkish necessitative is unlike Arabic passive and Polish active impersonal. That is, it allows for passivization.[24] Thus, a passive analysis cannot be maintained for Turkish necessitative.

(60) a. Sağlık için günde iki litre su iç-il-meli-ø
Health for everyday two liter water drink-PASS-NEC-3SG
'For good health, two liters of water should be drunk every day'
b. Bu böyle olmaz. Bu iş-ten para kazan-ıl-malı-ø
This is no way to go. This business-ABL money make-PASS-NEC-3SG
'This is no way to go. Money should be made out of this business'

I will offer, putting aside the case in Arabic and Polish, that Turkish necessitative and all tenses and modalities in partial null subject languages can pick a higher SaP or remain unbound. To this end, I resort to Rizzi's (1997, 2006) criterial features. Rizzi argues that criterial features signal the discourse related properties of sentences, such as topic and focus.[25] They enter the derivation as syntactic heads in *the fine structure of CP* and probe for some interpretable feature in their complement. Therefore, it is a reasonable conclusion that linking pro to a NP in the higher clause is due to an interpretable criterial feature since it renders the NP definite. Call

24 Note that it doesn't allow a by-phrase. Yet I can't see how this relates to the validity of the argument. Given the range of the NP in a by-phrase, ungrammaticality with a generic subject is expected.
25 See the discussion around (33).

this *discourse-link*, d-link for short. The criterial head d-link requires that its spec is discourse linked. It can be construed as the opposite of focus and topic as it applies to null subjects while focus and topic require overt subjects. It follows that d-link and topic/focus mutually exclude each other, which ensures that criterial freezing by topic/focus is not in place.[26] D-link, I assume, comes syncretic with a TAM head since it is a mood that leads to null generic subjects in Turkish. Now, all TAM heads come with d-link in consistent null subject languages. -mAlI, on the other hand, may or may not come with d-link. If it does, pro is d-linked to a higher NP via coindexing, resulting in definite interpretation. If it is not d-linked, the sentence is ungrammatical.[27] If -mAlI doesn't come with d-link, pro is interpreted generically. It follows that partial null subject languages may or may not pair d-link with each TAM marker in lexicon.

6. Conclusion

In this paper, I asked three major questions: (i) Is it possible to achieve a simpler version of Roberts' (2010) theory of pronominal deletion under identity? (ii) How do overt subjects of null subject languages look in such a theory? (iii) Are there counter examples to the predictions made by Holmberg's (2005, 2010) D-feature in the T of consistent null subject languages?

To answer the first question, I set out to explore a simpler theory of null subjects that bears more explanatory power and reached the conclusion that it is possible if we put the burden of assigning definiteness to discourse linking. Yet this is not simple relocation of a feature. For one thing, it results in a simpler theory of language and makes fewer assumptions. Although never stated explicitly by Holmberg and Roberts, D-feature was a hypothetical feature that assigns definiteness, a discourse-related interpretational property. I, on the other hand, attribute a discourse related property to a discourse related feature, namely d-link. Therefore, I argue that the current version of the null subject parameter is a better fit for the theory of language. The paper has other merits, too. To mention some, it unifies the ideas put forward to account for the null subject phenomenon in a consistent manner, such as Müller's (2005) impoverishment and Roberts' (2010) scale. Furthermore, the current paper offers tangible improvements to both ideas. Briefly, Müller's (2005) idea of ϕ-impoverishment is now person impoverishment, which avoids the theoretical possibility that all languages are ϕ-impoverished since UG actually makes

26 Mutual exclusion requires a mechanism where two heads compete for the same position the way Krezk (2013) assumes for VoiceP. I will, however, leave this aside hoping that either Rizzi's criterial heads can be redesigned in a such way or another account of how this happens is provided in future research.

27 Null subject languages, too, require a higher NP for definite third person null subjects.

available a huge array of possibilities for number and gender. That this is a potential issue is evident when one considers the cross-linguistic manifestation of these categories (Corbett 2001 and Fedden and Corbet 2017). As for Roberts' idea, I modify it so that deletion takes place when both ends of the scale are identical to each other rather than when pro is defective relative to ϕ-set. This brings balance to Force where either end can be deleted, also observed in Turkish. Furthermore, Roberts' theory requires that impoverishment in a set of features, namely ϕ-features, leads to elimination of another feature, that is D-feature. This seems ad hoc and stipulated. The version advocated here does not make such cross-featural assumptions since it is person feature itself that sets the languages apart regarding the null subject parameter. I also introduce a fine structure for pronouns, concluding that a pronoun is the culmination of ϕ-features without a D-layer.

For the second question, I subscribe to Sheehan's (2016) intuitive idea that it is a criterial feature – namely topic or focus – that dictates that subject be overt in null subject languages due to non-recoverable information.

Finally, the answer to the third question is a yes. Holmberg (2010) predicts that no consistent null subject language should allow generic null subject due to the D-feature in T. However, Turkish necessitative marker allows for generic null subjects. What's more, this is neither impersonal passive Fassi Fehri (2009) argues for Arabic, nor can it be accounted for by re-analysing it as an active indefinite disguised as passive appearing in VoiceP. What blocks such conclusions is that Turkish necessitative, the mood that allows generic null subjects, can be further passivized.

Definite null subjects in rich agreement languages can be accounted for with relative easy when one assumes a feature in IP that assigns definiteness, be it a formal feature such as D-feature or a criterial feature like d-link above. What is difficult, however, is to explain how such languages may have generic null subjects, especially why a specific type of inflection/ morpheme triggers it. The problem is two-folds. First, we don't yet have a framework to account for how any part of IP may establish a syntactic relation with a lexical item in discourse. Within the current understanding of human language, any discourse related operation – topic, focus etc. – is carried out in CP via A-bar chains. Yet the case in Turkish (and possibly the Arabic and Polish data leading to the conclusion that voice is the trigger) forces us to say that A-chains are at play. This is unattested so far. The problem it creates for the method chosen here (that is Rizzi's criterial features) is that we need more articulate research into what it means for criterial freezing. Criterial freezing dictates that once a criterial feature is checked the goal cannot move any further. However, the entire system was designed by Rizzi to apply to A-bar movement from

within IP to CP where the probe is in CP. A feature in IP could be categorically different from a feature in CP, voiding the infamous relativized minimality effect:

(61) Y is in a Minimal Configuration (MC) with X iff there is no Z such that
(i) *Z is of the same structural type as X*, and
(ii) Z intervenes between X and Y

(Rizzi 2001: 90; emphasis added)

The other issue to tackle regards the fact that null vs. overt subjects and topic/focus vs. d-link seem to result in a perfect duality where they mutually exclude each other. But there is a specific syntactic scenario that requires a third option. More precisely, I suggested, though tentatively, in §5.3 that d-link could be contrasted with topic and focus on the grounds that it applies to null subjects and null subjects are never the topic or focus of the sentence. However, generic null subject with necessitative in Turkish is the result of the scenario where the necessitative is not paired with d-link. It is neither topicalized/focused nor d-linked. Therefore, such sentences do not contain any criterial feature. This begs for more discussion. Is it possible, or based on the data here, how is it possible that a sentence has no criterial feature? However, I am not going into this here since this paper only concerns null and overt subjects.

References

Alexiadou, A. and Anagnostopoulou, E. (1998). Parametrizing AGR: word order, V-movement and EPP checking. *Natural Language and Linguistic* Theory 16: 491–539.

Anderson, S. (1982). Where's morphology? *Linguistic Inquiry* 13, 571-612.

Aydın, Ö. (2004). Türkçe zarf tümcelerinde özne konumu (The subject position in the adverbial clauses). *Dil Dergisi* 124: 7-17.

Baerman M., Brown, D. and Corbett, G. G. (2005). *The syntax-morphology interface: A study of syncretism*. Cambridge: Cambridge University Press.

Baggaley, V. (1998). The Syntactic Category of Pronouns. MA thesis. The University of Calgary.

Biberauer, T. (2010). Semi null-subject languages, expletives and expletive pro reconsidered. *In* Theresa Biberauer, Anders Holmberg, Ian Roberts & Michelle Sheehan (eds.), *Parametric variation: Null subjects in minimalist theory*, 163-199. Cambridge: Cambridge University Press.

Borer, H. (1986). I-subjects. *Linguistic Inquiry* 17 375-416.

Borer, H. (1989). Anaphoric Agr. In O. Jaeggli and K. Safir (eds) *The null subject parameter*. Dordrecht: Kluwer, 69–109.

Cardinaletti, A. and Starke, M. (1999). The typology of structural deficiency. In Henk van Riemsdijk (ed) *Clitics and other functional categories in European languages*. Berlin: Mouton de Gruyter, 145-233.

Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht: Foris.

Chomsky, N. (1982). *Some concepts and consequences of the theory of government and binding.* Cambridge, Mass: MIT Press.

Chomsky, N. (1986). *Barriers*. Linguistic Inquiry Monograph 13. Cambridge, MA: MIT Press

Chomsky, N. (1995). *The Minimalist Program*. Cambridge, MA: The MIT Press.

Chomsky, N. (2000). Minimalist inquiries: The framework. In: Martin R., Michaels, D. and Uriagereka, J. (eds.) *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Cambridge, MA: MIT Press.

Chomsky, N. (2001). Derivation by Phase. In: Kenstowicz, M. (ed.) *Ken Hale: A Life in Language*. Cambridge, MA: MIT Press.

Cinque, G. (1999). *Adverbs and functional heads: A cross-linguistic perspective*. New York: Oxford University Press.

Corbett, Grevelli G. (2004). *Number*. Cambridge: Cambridge University Press. de Nantes.

Déchaine, Rose M. and Wiltschko, M. (2002). Decomposing Pronouns. *Linguistic Inquiry* 33: 409-442.

Duguine, M. (2012). Basque nominalizations and the role of structural case in the licensing of null arguments. In Urtzi Etxeberria, Ricardo Etxepare and Myriam Uribe- Etxeberria (eds.) *Noun Phrases and Nominalization in Basque: syntax and semantics*. John Benjamins Publishing Company, 333-374.

Duguine, M. (2013). Null arguments and linguistic variation: A minimalist analysis of pro- drop. Ph.D. dissertation. University of the Basque country UPV/EHU and Université.

Erdal, M. (2004). *A grammar of Old Turkic*. Leiden; Boston: Brill.

Erguvanlı-Taylan, E. (1984). *The function of word order in Turkish Grammar*. London: University of California Press.

Fassi Fehri, A. (2009). Arabic silent pronouns, person and voice. *Brill's Annual of Afroasiatic, Language and Linguistics* 1: 1-38.

Fedden, S. and Corbett, Greville G. (2017). Gender and classifiers in concurrent systems: Refining the typology of nominal classification. Glossa: a journal of general linguistics 2(1): 34. 1–47.

Frascarelli, M. (2007). Subjects, topics and the interpretation of referential pro. An interface approach to the linking of (null) pronouns. *Natural Language & Linguistic Theory* 25. 691–734.

Gilligan, Gary M. (1987). A cross linguistic approach to the pro-drop parameter. Ph.D. dissertation, University of Southern California.

Giorgi, A. and F. Pianesi. (1997). *Tense and aspect*. Oxford: Oxford University Press.

Göksel, A. and Kerslake, C. (2005). *Turkish, A Comprehensive Grammar*. London: Routledge.

Grimshaw, J. and Samek-Lodovici, V. (1998). Optimal subjects. P. Barbosai D. Fox, P. Hagstrom, M. McGinnis, and D. Pesetsky (eds.) Is the best good enough? Papers from Workshop on Optimality in Syntax. Cambridge, MA: MIT Press and MIT Working Papers in Linguistics.

Gültekin Şener, N. & Şener, S. (2011). Null subject, indexicality in Turkish and Uyghur. In Proceedings of the 7th Workshop on Altaic Formal Linguistics (WAFL7), ed. by Andrew Simpson. MIT Working Papers in Linguistics 62. Cambridge, MA: MIT, MIT Working Papers in Linguistics.

Halle, M. (1997). Distributed Morphology: Impoverishment and Fission. In B. Bruening, Y. Kang & M. McGinnis, (eds.), Papers at the Interface. Vol. 30, MITWPL, 425–449.

Holmberg, A. (2005). 'Is there a little pro*? Evidence from Finnish,' Linguistic Inquiry, vol. 36 (4), pp. 533–64.*

Holmberg, A. (2010a). 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.

Holmberg, A. (2010b). The null generic pronoun in Finnish: A case of incorporation in T. In Theresa Biberauer, Anders Holmberg, Ian Roberts & Michelle Sheehan (eds.), *Parametric variation: Null subjects in minimalist theory*. Cambridge: Cambridge University Press, 200– 230.

Holmberg, A. and Sheehan, M. (2010). Control into finite clause 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.

Huang, J. (1984). On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15: 531–74.

Huang, Y. (1989). Pro-drop in Chinese: a generalized control theory. In O. Jaeggli and K. Safir (eds) *The null subject parameter.* Dordrecht: Kluwer, 185–214.

Huang, Y. (2000). *Anaphora. A cross-linguistic study. New York: Oxford University Press.*

İşsever, S. (2007). Towards a Unified Account of Clause-initial Scrambling in Turkish: A feature analysis. *Turkic Languages* 11: 93-123.

Jaeggli, O. and Safir, K. (1989). The Null Subject Parameter and Parametric Theory. In O. Jaeggli and K. Safir, (eds.) *The Null Subject Parameter*. Kluwer, Dordrecht, 1-44.

Johanson, L. (1988). On the renewal and reinterpretation of 'instrumental' gerunds in Turkic. *Oriens* 31: 136-153.

Johanson, L. (1995). On Turkic converb clauses. In: Haspelmath, M. and König, E. (Eds.) *Converbs in Cross-Linguistic Perspective: Structure and Meaning of Adverbial Verb Forms- Adverbial Participles, Gerunds*. Berlin: Mouton de Gruyter.

Kornfilt, J. (1984). *Case marking, agreement, and empty categories in Turkish*. Ph.D. dissertation, Harvard University.

Kornfilt, J. (1986). The stuttering prohibition and morpheme deletion in Turkish. In: Aksu-Koç, A. and Erguvanlı-Taylan, E. (eds.) *Proceedings of the Second International Conference in Turkish Linguistics*. İstanbul: Bosphorus University Publications.

Kornfilt, J. (1997). *Turkish*. Descriptive Grammars. London: Routledge.

Krezk, M. (2013). Interpretation and voice in Polish SIE and –NO/-TO constructions. In Irina Kor Chahine (ed.) *Current Studies in Slavic Linguistics.* John Benjamins Publishing Company, 185-198.

Krezk, M. (2017). The null subject parameter meets the Polish impersonal -NO/-TO construction. In Michelle Sheehan & Laura R. Bailey (eds.), *Order and structure in syntax II: Subjecthood and argument structure*. Berlin: Language Science Press, 307–318.

Kuram, K. (2015). The Organization and Functional Heads and Tense/Aspect/Mood Interpretation in Turkish. Ph.D. Dissertation, Newcastle University.

Kuram, K. (2020). L2 Acquisition of the Indexical Shift Parameter in Turkish. Manuscript submitted for publication.

Müller, G. (2005). Pro-drop and impoverishment. In P. Brandt and E. Fuss (eds) *Form, structure and grammar*. A Festschrift presented to Günther Grewendorf on the occasion of his 60th birthday. Tübingen: Narr, 93-115.

Noguchi, T. (1997). Two Types of Pronouns and Variable Binding. *Language* **73**, 770-797.

Nune, J. (2004). *Linearization of chains and sideward movement*. Cambridge, MA: MIT Press.

Özsoy, S. A. (1987). The null subject parameter and Turkish. In H. E. Boeschoten and L. Th. Verhoeven (eds.) *Studies on Modern Turkish: Proceedings of the Third Conference on Turkish Linguistics*. Tilburg: Tilburg University Press, 82–91.

Öztürk, B. (2001). Turkish as a non-pro-drop language. In: Erguvanlı-Taylan, E. (ed.) *The Verb in Turkish*. Amsterdam: John Benjamins Publishing Company.

Öztürk, B. (2006). Null Arguments in Turkish. In: Boeckx, C. (ed.) *Minimalist Essays* Linguistik Aktuell, Amsterdam: John Benjamins.

Öztürk, B. (2008). Non-configurationality: free word order and argument drop in Turkish. In: Theresa Biberauer (ed.) *The Limits of Syntactic Variation*. John Benjamins Publishing Company, 411-440.

Perlmutter, D. (1971). Deep and surface constraints in syntax. New York: Holt, Rinehart and Winston.

Pesetsky, D. and Torrego, E. (2007). The syntax of valuation and the interpretability of features. In: Karimi, S. Samiian, V. and Wilkins, W. (eds.). *Phrasal and clausal architecture: Syntactic derivation and interpretation.* Cambridge, MA: MIT press, 193-220.

Platzack, C. (2004). Agreement and the person phrase hypothesis. *Working Papers in Scandinavian Syntax* **73**: 83-112.

Pollock, J.-Y. (1989). Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20: 365-424.

Postal, P. M. (1966). On so-called pronouns in English. In D. Reibel and S. Schane (eds.) *Moderns Studies in English*. Englewood Cliffs, N. J.: Prentice-Hall, 201-203.

Radford, A. (2004). *Minimalist Syntax: Exploring the Structure of English.* Cambridge, Cambridge University Press.

Ritter, E. (1995). On the syntactic category of pronouns and agreement. *Natural Language and Linguistic Theory* 13: 405-443.

Rizzi, L. (1986). Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17: 501-557.

Rizzi, L. (1997). The fine structure of the left periphery. In Haegeman, L. (ed.) *Elements of Grammar*. Netherlands: Springer.

Rizzi, L. (1997). Relativized Minimality Effects. In Baltin, M. and Collins, C. *The Handbook of Contemporary Syntactic Theory*. Blackwell, 89-111.

Rizzi, L. (2006). On the form of chains: Criterial positions and ECP effects. In Cheng, L. and Corver, N. (eds.) *On Wh Movement*. Cambridge, MA: MIT Press.

Roberts, I. (2004). Some Consequences of a Deletion Analysis of Null Subjects. In *LAGB.* Surrey, Roehampton.

Roberts, I. (2010). A deletion analysis of null subjects. In Theresa Biberauer, Anders Holmberg, Ian Roberts & Michelle Sheehan (eds.), *Parametric variation: Null subjects in minimalist theory*, 58-87 Cambridge: Cambridge University Press.

Rohrbacher, B. (1999). *Morphology-Driven Syntax: A Theory of V to I Raising and Pro-Drop.* Benjamins, Amsterdam.

Schlenker, P. (2003). A Plea for Monsters. *Linguistics and Philosophy*, 26, 1, (pp. 29-120).

Sheehan, M. (2006). The EPP and null subjects in Romance. Ph.D. dissertation, Newcastle University.

Sheehan, M. (2016.) Subjects, null subjects and expletives in Romance. In S. Fischer & S. Gabriel (eds.), *Manuals of Romance Linguistics (MRL): Grammatical Interfaces*. Berlin: Mouton de Gruyter, 329-362.

Shklovsky, K. & Sudo, Y. (2014). The syntax of monsters. *Linguistic Inquiry*, Volume 45, Number 3 pp. 381-402.

Slobin, D. (1995). Converbs in Turkish child language: The grammaticalization of event coherence. In: Haspelmath, M. & König, E. (eds.) *Converbs in Cross-Linguistic Perspective: Structure and Meaning of Adverbial Verb Forms- Adverbial Participles, Gerunds*. Berlin: Mouton de Gruyter.

Speas, P. & Tenny, C. (2003). Configurational Properties of Point of View Roles. In DiSciullo, A. (ed.) *Asymmetry in Grammar*. Amsterdam: John Benjamins, 315-344.

Taraldsen, T. (1980). *On the NIC, vacuous application and the that-trace filter*. Indiana University Linguistics Club.

Tosun, G. (1998). *The SPLIT INF hypothesis in Turkish*. MA thesis. Bosphorus University.

Uzun, N. E. (2004) *Dilbilgisinin Temel Kavramları*: *Türkçe Üzerine Tartışmalar*. Türk Dilleri Araştırmaları Dizisi 39, İstanbul.

Velupillai, V. (2012). *An Introduction to Linguistic Typology*. Amsterdam: John Benhamins.