Object drop and article drop in reduced written register*

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Abstract: This paper discusses object drop in English 'reduced written register' (RWR), such as recipes (Haegeman 1987, Massam 1989, Massam and Roberge 1989) and diaries. Object drop differs from subject drop in RWR (Haegeman 1997, 2007, a.o.); dropped subjects can be of any person and can be expletives, while dropped objects can be third person only and cannot be expletives. I propose that object drop in RWR is dependent on article drop. I analyze null articles in RWR as the presence of a phonologically null determiner with the semantics of a choice function. To analyze object drop, I adopt Tomioka (2003)'s analysis for Japanese null pronouns, in which a null determiner, combined with NP ellipsis, allows a constituent with pronominal-like semantics to go wholly unpronounced. I argue that a similar process is at work in English RWR, and argue that this analysis allows us to understand the person and expletive restrictions.

Keywords: pro-drop, written English, telegraphic register, register variation, object drop, article drop

1. Introduction

This paper addresses the phenomenon of 'missing' objects in English, as shown in (1).

(1) a. Cut chicken into small pieces. Bake Ø for 20 minutes.

b. Pour Ø into mold and let Ø stand for 5 minutes.

c. Do not use Ø without adult supervision.

d. Tried that new restaurant yesterday. Didn't like Ø very much.

e. Received credit card bill in mail today. Will shred Ø later.

This phenomenon is restricted to written English. Haegeman (1990) points out that object drop of this type is impossible in speech.

(2) a. A: What did you do then?
B: I cut the chicken into small pieces, #and I baked Ø for 20 minutes.

b. This here is the new X-ray machine. It's very dangerous. *Don't use Ø without supervision from me!

Previous work on the construction (Haegeman 1987a, b; Massam & Roberge 1989; Massam 1992) concentrate primarily on the absence of objects in recipes, as in (1a, b). It is also possible to see this phenomenon in instructional or directive register more generally, as (1c) shows. Furthermore, it can appear in more informal written registers, such as in diaries, SMS (text) messages, internet communication, etc., as (1d, e) exemplify. It is, then, one of the hallmarks of the register which is called 'block language' by Straumann (1935), 'abbreviated English' by Stowell (1991, 1999), and 'reduced written register' by Weir (2013), the term I shall adopt here, abbreviated as 'RWR'.

This phenomenon is surprising from an analytical point of view; English is not in general a null-object language, as the ungrammatical examples in (2) show. Something about 'reduced written register' licenses the possibility of null objects, a factor which is not present in spoken English.

In this paper I propose an analysis which explains this variation. Concretely, I capitalize on an apparently independent feature of RWR: it also allows article drop, as shown below.

(3) Bought Ø new phone today. (= *I* bought *a* new phone today.)

I argue that object drop follows from this fact. I follow Tomioka (2003)'s analysis of 'discourse pro-drop' in Japanese, where a null pronoun is created via a null determiner plus an elided NP (i.e. a completely silent argument). I argue that English RWR contains in its lexicon a silent article with the semantics of a choice function (as in e.g. Reinhart (1997)'s

analysis of indefinites). In this way, this variation between spoken English (which disallows object drop) and RWR (which allows it) is located in the lexicon: RWR contains a silent article in its lexicon which spoken English lacks. Such an analysis also accounts for the interpretive properties of article-less DPs in RWR and for a number of facts concerning the distribution of null objects.

The paper proceeds as follows. Section 2 lays out the data that a theory of object drop will have to account for. In section 3, I consider some previous analyses, and argue that they do not capture the full range of data. In section 4, I propose a syntax and semantics for null articles in RWR, and in section 5, I show how this can be extended to account for null objects and their distribution. Section 6 considers some remaining issues, and section 7 concludes.

2. Object drop: distribution and explananda

An initial analysis of object drop might try to capitalize on the fact that null subjects are also possible in RWR, as discussed by Haegeman (1990, 1997, 2007), Haegeman & Ihsane (1999, 2001), Weir (2012). We can see this from (1d, e), repeated below.

(4) a. $Ø_{subj}$ Tried that new restaurant yesterday. $Ø_{subj}$ Didn't like $Ø_{obj}$ very much.

b. $Ø_{subj}$ Received credit card bill in mail today. $Ø_{subj}$ Will shred $Ø_{obj}$ later.

Based on this, we might speculate that RWR allows for 'radical' pro-drop of the type familiar from Japanese or Chinese (see e.g. Huang 1984); any pronoun (subject or object) can be dropped in RWR, subject to a discourse-based recoverability constraint. However, this cannot be quite correct, as there are a number of constraints on object drop in RWR which are not present for subject drop. For example, subject drop can affect pronouns of any person, as (5) shows.

(5) a. Today $Ø_{1p}$ went to gym.

b. (comments on a student's essay)
$Ø_{2p}$ Don't need to go into so much detail here.

c. $Ø_{1p}$ Saw Bill today. $Ø_{3p}$ Didn't look very happy.

By contrast, dropped objects can only be third person.

(6) a. Received credit card bill in mail today. Will shred (it/$Ø_{3p}$) later.

b. Don't send me any more emails. Will fire (you/*$Ø_{2p}$).

c. Don't want to talk to my boss. Would fire (me/*$Ø_{1p}$).

It is not obvious why, on a 'radical pro-drop' approach, this difference between persons would obtain. In languages which have been described as 'radical pro-drop', such as Japanese or Chinese, the difference does not obtain; the authors cited below note that dropped pronouns can refer to any person, whether they are subject or object pronouns, as (7, 8) show.

(7) (from Neeleman & Szendrői 2007's (2); Japanese)

a. Ø siken-ni otita
exam-DAT failed
'*pro* failed the exam.' (*pro* can be *I, you, he, they* etc.)

b. Bill-ga Ø settokusuru
bill-NOM persuades
'Bill persuades *pro*.'

(8) (from Huang 1984's (7); Chinese)

a. Ø kanjian ta le.
see he LE
'*pro* saw him.'

b. Ta kanjian Ø le.
he see LE.
'He saw *pro*.'

And Phimsawat (2011:132f.) notes that in a Thai sentence like (9), the null object pronoun can have either first-person or second-person reference depending on context.

(9) phleeŋ rɔ́kɛ̀ɛnroo thamhây Ø khlaay khrîad
music rock 'n' roll make lessen stress
'Rock 'n' roll music makes me/you less stressed.'

Another difference between dropped subjects and dropped objects in RWR is that, while expletive subjects can drop (10), expletive objects cannot (11).

(10) a. (It/Ø) has been raining all day.

b. (There/Ø) seems to be a problem with the engine.

(11) a. Considered (it/?*Ø) necessary to call the doctor.[1]

b. Proved (there/?*Ø) to be ghosts in the attic.

c. Proved (it/?*Ø) to Mary to be necessary to call the doctor.

Again, this difference would be difficult to explain on a 'radical pro-drop' approach; one would simply not expect expletives to appear in any position, given that languages with 'real' radical pro-drop lack expletive pronouns. The fact that expletive object pronouns are required in RWR, while referential object pronouns are optionally expressed, requires explanation.

Another interesting fact about null objects in RWR is that there are restrictions on their co-occurrence with overt subject pronouns, as Massam & Roberge (1989) and Massam (1992) discuss. Null objects are licit in imperatives, as in (12a), or in a declarative sentence in which the subject has been dropped, as in (13a), but if subjects are included in these structures, they become ungrammatical. PRO in an embedded infinitival does not block a null object pronoun, but an overt subject pronoun in the embedding clause does, as shown in (14) (cp. Massam 1992:ex. (42)).

(12) Rifles are precision pieces of equipment.

a. Keep Ø clean (at all times).

b. *You keep Ø clean (at all times).

c. *Everyone keep Ø clean (at all times).[2]

(13) Received credit card bill today.

a. Ø Will shred Ø later.

b. *I will shred Ø later.

(14) After adding the eggs, you will have a sticky mixture.

a. Try [PRO to beat Ø carefully].[3]

b. *You should try [PRO to beat Ø carefully].

The restriction appears to be that overt subjects must not c-command a null object. This is shown in (15), where the overt subject is contained within an adjunct and does not c-command the null object.

(15) Received my credit card bill in the mail today;
$Ø_{subj}$ will shred $Ø_{obj}$ later [so that **John/he/they/you** doesn't/don't see it].

But, as (14b) shows, an overt subject pronoun in the matrix clause blocks a null object pronoun inside an embedded clause.

We have, then, a number of explananda which a theory of object drop in English reduced written register should deliver. Firstly, it should explain why object drop is restricted only to third person pronouns. Secondly, it should explain why object drop is restricted only to referential pronouns, not expletives. Thirdly, we want to understand why a c-commanding subject should block object drop. And lastly, we want to understand why object drop is only licit in *written* register, rather than speech; that is, what is the parameter or point of variation along which spoken English and RWR differ. In what follows, I will develop a theory which delivers these results. Firstly, however, I consider some previous analyses of object drop.

3. Previous analyses

3.1 Haegeman: topic drop

Haegeman (1987a, b) proposes an account of object drop in which objects topicalize and subsequently delete. This phenomenon would be similar to the process of 'pronoun zap' discussed for the Germanic languages (Ross 1982, Huang 1984, and much subsequent work).

(16) a. Cook Ø for twenty minutes.

b. [~~The mixture~~ [cook t for twenty minutes]]

We can locate this in a general theory of 'truncation' in RWR (Rizzi 1994, 2006, Haegeman 1997, 2007). This is the idea that the syntactic projections in the clausal left periphery in RWR (in the sense of Rizzi (1997) et seq.) are 'reduced' with respect to the left periphery in spoken register, and that it is this reduction which results in the differing properties of RWR and spoken register with respect to, for example, pronoun drop. Implementations of this idea vary, but most recently Haegeman (2007), following Rizzi (2006), has proposed that the highest projections in the root clause – in RWR, including at least the landing site of topicalized material and the projections higher than that – fail to undergo phonological spellout.

Such a proposal correctly captures the generalization that dropped objects need to have a salient antecedent; only such objects could be discourse topics. It also captures the generalization that expletive objects cannot drop, as these are not referential, and so cannot be discourse topics. This account faces some challenges, however. Firstly, object drop is most common in instructional registers, in imperatives. However, overt topicalization out of imperatives is usually reported as degraded in the literature, as shown below.

(17) ??The mixture, cook t for twenty minutes.

However, object drop in imperatives is not degraded at all (in the relevant register), and is indeed the most common environment in which it occurs. Furthermore, if A′-movement of the object is implicated, this movement should be island-sensitive. Haegeman in fact argues that object drop indeed is not permitted within syntactic islands, citing examples such as the below.

(18) (from Haegeman 1987b's (24, 25))

a. ?Lift the chicken pieces out of the wine, preserving the mixture in which you have marinated Ø.

b. ?Test meat for doneness by piercing it with sharp point of knife to see if you have marinated Ø long enough; the meat should be white.

But note that these examples contain overt subjects within the islands, which independently makes object drop ungrammatical. Once this is controlled for (by investigating islands like *before*-clauses, or gerunds in subject position, with PRO subjects), we find that null objects can in fact appear inside islands, as shown below.

(19) *Adjunct islands support null objects*

a. Wait for ten minutes [before removing Ø from oven].

b. Drafted a nasty email, but will wait for a couple of days [before sending Ø].

c. Please inspect these documents carefully [before using Ø]. (attested example)

(20) *Adjunct islands do not allow topicalization*

a. *The chicken, wait for ten minutes [before removing t from oven].

b. ??The email, I will wait for a couple of days [before sending t].

c. *These documents, please inspect the seals carefully [before using t].[4]

(21) *Subject islands support null objects*

a. WARNING: [placing Ø into microwave] may cause damage.

b. ?Have acquired overdraft; but [using Ø] might cause problems.

(22) *Subject islands do not allow topicalization*

a. *This dish, [placing t into the microwave] may cause damage.

b. *My new overdraft, [using t] might cause problems.

The contrast between null objects in RWR, which seem to be generally permitted within islands, and the traces of topicalized constituents, which aren't, is suggestive that A′-movement is not involved in the derivation of null objects. We might suggest a non-movement strategy in which a base-generated empty category is bound by a null topic operator in the left periphery of the clause. Such a proposal is made for null subjects in RWR by Haegeman (1997).

(23) a. [TOP_i [Cook ec_i for twenty minutes.]]

b. [TOP_i [Wait for ten minutes before removing ec_i from oven]]

This would inherit the advantages of the topicalization account (e.g. it would rule out the possibility of dropping non-topics, such as expletive pronouns); and we would not expect such a structure to be island-sensitive, as movement is not involved. However, it does not predict the restriction of dropped objects to third person only. First- and second-person referents can also be discourse topics, and can be topicalized, as (24) shows; so it is unclear why the null object in (25) should not be able to refer to first or second persons on an account in which object drop is a form of topic drop (see also the examples in (6)).

(24) {Him/Me/You}, she didn't like t very much.

(25) $Ø_{1p/2p/3p}$ Didn't like $Ø_{*1p/*2p/3p}$ very much.

Finally, we would want to understand the nature of the empty category which is being bound by the topic operator. If it is not identified with a trace (as in a movement derivation), then it is not clear what this empty category is. Base-generated empty categories are usually

not considered licit in English, so we would want to know what is special about RWR which would allow such empty categories.

In fact, Massam (1992) suggests that base-generated empty categories in object position *are* licit in English quite generally, in a way which extends to RWR. I now turn to discuss Massam's analysis.

3.2 Massam: null objects and middles

Massam (1992) proposes an analysis of null objects in RWR based on an analysis of another construction in which null objects seem to be possible in English: the middle construction, exemplified in (26) (Massam's (7)).

(26) a. The brown bread cuts easily.

b. This blouse washes like a dream.

c. The soup that eats like a meal.

Massam analyzes such middles as containing a base-generated empty category in the object position which receives the internal theta-role of the predicate, and a base-generated noun phrase in [Spec, IP] which does not receive any theta-role of its own, but which is coindexed with the empty category in object position.

(27) $[_{IP}$ The brown bread$_i$ $[_{VP}$ cuts ec$_i$ easily]]

Massam argues that the empty category in middle constructions is a particular kind of reflexive pronoun, a 'self-licensing' empty category. Massam points out that overt reflexives can alternate with null objects with an interpretation very similar to that of a middle:

(28) (from Massam's (37), with 'control' middles added for comparison)

a. This floor practically washes itself.

(cp. *This floor washes easily*)

b. His novels are so good, they almost read themselves.

(cp. *His novels read well*)

Massam's proposal is that empty categories in object position, as such, are generally available; the reason we do not see them more often (i.e. we don't see something like **I devoured Ø*) is that the noun phrase which is in subject position has to be coindexed with the empty category (as it is anaphoric, a type of reflexive). This gives a middle interpretation.

Massam supports the proposal that 'self-licensing' empty categories in object position exist by arguing that there are in fact environments other than middles in which they appear, namely the recipe etc. register being considered here. Massam argues that imperatives lack overt subjects, which means that the subject position is 'free' for the insertion of a null topic operator which is coreferential with the null object.

(29) a. Boil for ten minutes.

b. $[_{IP}$ TOP_i $[_{VP}$ boil ec_i for ten minutes]]

Such an analysis correctly predicts that null objects must co-occur with null subjects. If the subject was to be expressed, then it would bind the object; and as Massam points out, if the subject is made overt in (29a), *You boil for ten minutes*, then the only available reading is the middle interpretation (the one on which you are the one being boiled). Imperatives are an environment in which the subject is suppressed, allowing for the insertion of a null topic operator in subject position; so in imperatives, a reflexive/middle interpretation is not obtained. We can also note the additional advantage that, as the null object is bound by a topic operator, the null object cannot be expletive but rather must be referential, as noted above.

However, Massam's analysis also faces challenges. The first is that null objects are not restricted only to imperatives; declaratives can contain null objects too.

(30) (Received credit card bill in mail today;) Ø will shred Ø later.

The subject in cases like (30) is not *overt*, but it does seem to be syntactically *present*, if unpronounced.[5] For example, it can provide the phi-features for auxiliary agreement or reflexive pronouns.

(31) a. $Ø_{1sg}$ Am_{1sg} going to gym tomorrow.

b. $Ø_{1sg}$ Am not going to let $myself_{1sg}$ be treated like that.

The null subject can also bind PRO.

(32) $Ø_1$ Want [PRO_1 to go to gym later].

Evidence of this sort suggests that the null subject is syntactically present, but goes unpronounced. But in that case, the subject position is filled, and should not be able to host a topic operator of the type Massam proposes. We can see from examples like the below that the subject position must host something capable of binding/controlling a pronoun even if a null object is also present in the structure.

(33) (Received my credit card bill in mail today.)

$Ø_{1sg}$ Will shred $Ø_{3sg}$ before [PRO_{1sg} taking the day off to enjoy $myself_{1sg}$].

Here, the matrix subject must be first person to provide the correct controller for PRO. But the null object need not be, and in fact cannot be, coreferential with the null subject. This suggests that an analysis of a null object pronoun as a base-generated empty category which must be anaphoric to an element in subject position is not correct. We could suggest that the topic operator is not in subject position (and is rather in some other position, an A′-position perhaps), but then this analysis would be identical to the operator-binding structure proposed in section 3.1.

Massam's analysis also has one of the problems that Haegeman's does, namely that

nothing in the analysis predicts the restriction to third person. As shown above, there does not seem to be a particular reason why a topic operator should be restricted to third person, given that topics in general do not show such a restriction. The empty category itself is also not the source of the restriction, if it is to be identified with an empty category which appears in the object position of middles; middles can take first- and second-person arguments unproblematically.

(34) {I/You} photograph $Ø_{1p/2p}$ well.

A final problem for Massam's analysis is that it is not clear what restricts null objects only to written register. If an empty category is assumed in the object position of middle constructions, then this empty category must clearly be licit in speech. However, null objects (outside of middle constructions) are very marginal in speech, especially in colloquial speech, even in imperative structures. To the extent that (35a) is grammatical, it represents a reading-aloud of a written recipe (which contains object drop).[6] (35b) is simply ungrammatical without an overt object (except on the reading where the addressee is being commanded to wash himself).

(35) a. A: Okay, so I've chopped the onion; now what?

B: Fry ??(it) for ten minutes.

b. A: I've parked the car where you wanted it; now what?

B: Wash *(it) thoroughly.

It is possible that the proposed null topic operator, which binds the null object and provides its referent, is only licit in RWR, but we would then want to know why this was so; nothing in the analysis as proposed gives us an explanation for this.

3.3 Summary

To sum up, existing accounts of object drop in RWR do not immediately allow us to account for the restriction to third person. They also do not predict syntactic restrictions on object drop. Massam (1992)'s analysis predicts the failure of object drop to co-occur with a c-commanding (or preceding) subject pronoun; however, her analysis does not predict why null objects are a feature of *written* register only, and not of speech. Haegeman (1987b)'s analysis does account for why object drop only takes place in RWR, if it is augmented with a theory of 'truncation' which accounts for the failure to spell out left-peripheral (e.g. topicalized) material in RWR. However, Haegeman's analysis, which is movement-based, does not account for the fact that dropped objects do not pattern like traces of A′-movement (e.g. they are not sensitive to islands). We are still left with the explananda we had at the end of section 2. In the remainder of this paper, I will propose an analysis that accounts for these explananda by unifying the phenomenon of object drop in RWR with another, apparently independent phenomenon, namely article drop.

4. Article drop in RWR

4.1 Parallels between article drop and object drop

One of the phenomena which an account of object drop will have to explain is the subject/object asymmetry: object pronouns cannot be dropped to the exclusion of subject pronouns. Interestingly, this asymmetry has a very similar correlate in another phenomenon which only takes place in 'reduced written registers' of English, namely article drop. This phenomenon is most usually discussed with respect to the grammar of newspaper headlines (Mårdh 1980, Stowell 1991, 1999, this volume, Reich this volume, Weir 2013), but it is possible in other subregisters of RWR as well, such as recipes, diaries, and internet language.

(I notate the null article as $Ø_D$, D standing for 'determiner'.)

(36) a. $Ø_D$ Man bites $Ø_D$ dog

b. Amazon and HBO sign $Ø_D$ streaming deal [BBC News website, Apr. 23 2014]

c. Two more migrant boats issue distress calls in $Ø_D$ Mediterranean [theguardian.com, Apr. 20 2015]

(37) a. Take eggs and add to $Ø_D$ mixture.

b. Mix dry ingredients in $Ø_D$ bowl.

(38) a. Received $Ø_D$ credit card bill in $Ø_D$ mail today.

b. $Ø_D$ Boss brought in $Ø_D$ broken laptop today.

In speech, all of the places marked with $Ø_D$ in the examples above would have to be replaced with overt articles (*Amazon and HBO sign **a** streaming deal*, *take eggs and add to **the** mixture*, etc.). Such omitted articles are only grammatical in reduced written English.

A very interesting parallel with the object drop cases appears. Just as object pronouns cannot be dropped if subject pronouns are present, articles in object DPs cannot be dropped if articles in subject DPs are present. This subject-object asymmetry was noted by Mårdh (1980) in a corpus study of English headlines. Forty-six examples of an article-ful DP following an article-less DP (i.e. the pattern in (39a)) were found, but only three examples were found of an article-less DP following an article-ful DP (i.e. the pattern in (39b)).

(39) a. Man bites a dog

b. *A man bites dog

Stowell (1991, 1999) also notes the asymmetry, and gives it a characterization in terms of c-command: an article-ful DP may not c-command an article-less DP. Given this apparent parallelism between article drop and object drop, we might wonder if the two phenomena can be unified somehow. This is what I will propose. Before presenting my analysis, however, I

will propose an analysis of the semantics of article drop in RWR, building on that presented in Weir (2013).

4.2 The scope behavior of articleless DPs

On looking at an example like (40a), one might imagine that article drop in RWR is a matter of somehow eliding or failing to pronounce articles which would be present in standard English. That is, (40a) is underlyingly (40b), but the articles are deleted at a phonological level (shown by <angle brackets> here).

(40) a. Man bites dog

b. <A> man bites <a> dog

However, such an explanation does not account for the fact that null articles in RWR do not have all the interpretive possibilities which are borne by overt articles. In particular, null articles in RWR only allow for *specific* readings (Fodor & Sag 1982, Reinhart 1997, Winter 1997, Kratzer 1998). That is, they always pick out a particular entity in the extension of the noun phrase they combine with; article-less noun phrases in RWR pattern with the acceptability of *a certain NP* or *a particular NP*. Noun phrases which are in construction with null articles in RWR cannot, for example, have generic readings – patterning with *a particular NP* – while their counterparts with overt articles can.

(41) a. A gentleman wouldn't do that in those days. [generic reading; any gentleman]

b. $Ø_D$ Gentleman wouldn't do that in those days. [# on generic reading]

(cp. *Met gentleman from town hall today* – specific reading allows null article)

c. #A particular gentleman wouldn't do that in those days. [# on generic reading]

(42) a. A comet is made of ice and rock. [generic reading; any comet]

b. $Ø_D$ Comet is made of ice and rock.
[only a specific comet: # on generic reading]

c. #A particular comet is made of ice and rock. [# on generic reading]

In addition, noun phrases in construction with null articles always take wide scope with respect to adverbs of quantification. For example, (43a) has a reading in which the identity of the student varies according to the situation – that is, the indefinite introduces a variable which is bound by the adverb *usually* (as in e.g. Lewis 1975, Heim 1982). However, no such reading is possible in (43b): here, the only reading is that there is a particular student we are talking about, and that student is usually late for my class. Similarly, the sentence in (44a), with the overt article *a*, can have a reading paraphrasable as "Most parrots have green feathers"; but the sentence in (44b) only has a rather strange reading in which *one particular* parrot usually has green feathers (but develops red feathers in summer, for example).

(43) a. A student is usually late for my class.
(*usually > a student; a student > usually*)

b. Student is usually late for my class.
(**usually > a student; a student > usually*)

(44) a. A parrot usually has green feathers.

b. #Parrot usually has green feathers.

In addition, articleless DPs are degraded in contexts where the specific interpretation is pragmatically inappropriate (and where *a particular NP* is also inappropriate), as in the imperative example in (45).

(45) Try your luck on the fairground games! Pay $Ø_D$ attendant, throw balls at the target, and…

a. …win a coconut!

b. ?#...win $Ø_D$ coconut!

c. ?#...win a particular coconut!

Note that having a null article in an imperative sentence in general is acceptable, as *pay* $Ø_D$

attendant shows; this means "pay *the* attendant", i.e. the DP has a specific reading. But identifying the particular coconut that you will win is pragmatically odd, leading to the infelicity of (45b, c).

A reviewer suggests that it does not always seem to be the case that articleless DPs take wide scope, noting that articleless DPs can for example appear in the scope of modals or negation without apparently having 'specific' readings:[7]

(46) a. Must write $Ø_D$ paper before my tenure review.

b. Didn't receive $Ø_D$ bill in the mail today.

I think it is true that physical entities are not being picked out in these cases; the paper does not exist yet, and the bill may not either. However I think that the interpretation of these examples is still a kind of specific reading. While judgments are subtle, I think that these examples are not paraphrasable by the sentences in (47), which they would be if the DPs were taking scope below modals and negation. Rather, the appropriate paraphrases are those given in (48).

(47) a. I must write a paper, any paper, before my tenure review.

b. I didn't receive any bill in the mail today.

(48) a. There's a (certain) paper I must write before my tenure review. (e.g. the one I have in mind about subject island effects)

b. There's a (certain) bill I didn't receive in the mail today. (e.g. the one I was expecting)

The DPs *a paper, a bill* in (48) do refer to intensional/non-physical objects in some sense, but this is a property of the DP rather than its intensional context. One can for example say *I had some ideas about a (certain) paper I was going to write, and I talked about* ***that paper***, where the paper may not 'physically' exist yet but does in some sense 'mentally' exist; in the

sentence *I talked about that paper*, no operator is present that would create an intensional context, so this cannot be a matter of scope. I will not try to discuss the proper semantic representation of intensional objects here, but the judgments of the goodness of (46) do not necessarily indicate that articleless DPs are capable of taking narrow scope, as the paraphrases in (48) indicate. Rather, I maintain that articleless DPs in RWR always have specific readings.[8]

4.3 The null article in RWR: a choice-functional analysis

On the basis of data such as this, I propose that the null article in RWR is not an elided version of spoken *a* or *the*, as it cannot have all of the interpretations which *a*, for example, can have. Rather, I propose that the null article is a separate lexical item which is only present in RWR, which has the semantics of a choice function – a function which takes a noun phrase extension as argument and returns an entity which is in the extension of that noun phrase.

(49) a. $[[Ø_D]] = f_{<et, e>}$

b. $[[dog]] = \lambda x.\ x$ is a dog

c. $[[Ø_D]]([[dog]]) = f(\lambda x.\ x \text{ is a dog})$
= some entity in the extension of *dog*

This is a semantics which has been given for indefinite determiners such as *a* or *some* by many authors (e.g. Reinhart 1997, Winter 1997, Kratzer 1998). Most authors (with the exception of Winter (1997)) argue that these indefinite determiners have to be ambiguous between choice-functional and quantificational denotations. [9] The choice-functional denotation gives the specific or referential reading of an indefinite noun phrase; the quantificational denotation provides the reading where the referent of the indefinite can vary with respect to another quantifier, as in for example (b).

(50) a. Everyone asked if <u>a particular student of mine</u> was going to fail.

[referential reading]

b. Everyone asked if *f*(student of mine) was going to fail.
(student picked out by the choice function *f* does not vary depending on who is asking)[10]

(51) a. Every professor failed a student. [quantificational reading]

b. $\forall x.\ x$ is a professor $\rightarrow \exists y.\ y$ is a student and x failed y
(referent of *y*, the failed student, can vary with respect to *x*, the professor)

I argue that the null article $Ø_D$ in RWR is not ambiguous in this way: $Ø_D$ *only* has the choice-functional or referential reading. I assume that the value of the choice function variable introduced by the null article (e.g. *f* in (49)) is either provided by context (Kratzer 1998) or existentially closed at the highest level (Matthewson 1999).[11] This proposal explains why it cannot get a generic reading, take non-specific scope under (e.g.) an imperative or modal, or receive a reading in which it is bound by adverbs of quantification such as *usually*; the choice function which $Ø_D$ introduces will always pick a particular referent in the extension of the noun phrase it combines with.

This proposal explains why only specific readings are possible with articleless NPs. I propose further that the null article in RWR is vague with respect to definiteness: it can introduce either definite or (specific) indefinite NPs. In this respect, it patterns somewhat with the demonstrative *this* in English, which has both a definite (52a) and an indefinite use (52b) (Prince 1981, Ionin 2006).

(52) a. I want you to read this book.

b. There was this guy I used to know.

The distribution of the null article might now concern us. In spoken English, definite articles are required in preference to indefinite articles if the presuppositions of the definite article (uniqueness and/or givenness) are met, as the below contrast shows:

(53) a. A man walked in. The man sat down.

b. A man walked in. *A man sat down. (* if referring to the same man)

This effect has generally been attributed to something like Heim (1991)'s principle of Maximize Presupposition: because the definite determiner *the* carries more presuppositions than the indefinite determiner *a*, *the* must be used in preference to *a* if *the*'s presuppositions are met. We might then worry whether the null article in RWR should be subject to the same constraint. I have argued that it is not itself specified for definiteness, and (as articleless DPs are compatible with indefinite readings) the null article cannot bear the presuppositions that the definite determiner *the* has. Given this, we might expect that Maximize Presupposition should enforce the use of *the* in contexts like (54), as the presuppositions of *the* would be satisfied (there is only one mixture in the context, and spoken English would have *the mixture*), and so *the* should be used in preference to the null article. This does not seem to be the case.

(54) Mix butter and sugar. Add eggs to $Ø_D$ mixture.

To address this issue, I propose that the null 'article' does not actually syntactically form a natural class with the articles *a* and *the* (and so is not in competition with them from the point of view of Maximize Presupposition). Note, for example, that articles are surprisingly *not* droppable in construction with quantificational expressions.

(55) a. Take potatoes and butter. Place {all/half/some} of *(the) potatoes in a bowl.

b. Mouse problem at home. Killed five of *(the) little pests.

I interpret the data in (55) as indicating that the null 'article' is in complementary distribution with quantificational or cardinality expressions like *all (of), half (of), some (of), many (of), five (of),* and that it belongs to the same syntactic class. Cardinality/quantificational items of this sort do not prompt a competition with *the*, even if the presuppositions of *the* would be satisfied, as (54) shows; even though *the applications* would be felicitous in the second

clause, the use of *two hundred* is felicitous as well (it is somewhat wordy, but is considerably better than the example in (53) for instance).

(56) Two hundred applications were received. Two hundred applications were approved.

I therefore propose that the null determiner is an expression of the same syntactic type as, say, *some* or *five*. These determiners can have choice-functional semantics (see e.g. Reinhart 1997, Constant 2012); the null determiner in RWR is the simplest such case of a choice function, one which takes a set of entities and returns an entity within the set. It does not contain a definiteness specification, and is compatible with both indefinite and definite readings of the noun phrase.

Such a proposal explains why the null article has the interpretive possibilities which it does. It also helps us to locate the difference between RWR and spoken English: the difference is lexical. The only relevant difference, at least with respect to articles, between RWR and spoken English is that RWR has one additional lexical item which spoken English lacks. This allows us to account for variation between registers by the simple expedient of assuming that RWR has one more lexical item than spoken English does.

The payoff of this move goes beyond just the explanation of article drop. I will argue that postulating a null article in RWR also helps us to explain object drop. The argument follows Tomioka's (2003) proposal that pronoun drop in 'radical pro-drop' languages, such as Japanese or Chinese, can be understood as a null article plus ellipsis of a noun phrase. I will argue that this analysis can extend to object drop in RWR.

5. Extending article drop to object drop

5.1 Tomioka: article drop and pronoun drop

Tomioka (2003) seeks to provide an explanation of the various possible uses of null

pronouns in Japanese, such as the below (Tomioka's (6)).

(57) Ken-wa kuruma-o kat-ta. Erika-mo **pro** kat-ta.
Ken-TOP car-ACC buy-PERF Erika-also buy-PERF
'Ken bought a car. Erika bought a car, too.'

Tomioka's proposal is that the apparent 'pro-drop' which can be seen in Japanese examples like (57) is the result of a process of NP ellipsis similar to that which can be independently seen in (58).

(58) Ken-wa tabako-o ichinichi futa-hako suu-ga Erika-wa **pro** ip-pon-shika
Ken-TOP cigarette-ACC a day two packs smoke-but Erika-TOP 1-CL-except
suwan-ai.
smoke-NEG
'Ken smokes two packs of cigarettes a day, but Erika smokes only one (cigarette).'

Overt determiners are not required in Japanese (i.e. arguments can be bare NPs). Tomioka argues that arguments can therefore go completely unpronounced in Japanese: if a noun phrase can go unpronounced (as (58) shows), and if determiners are not required, then (57) can be analyzed as a combination of an unpronounced determiner and unpronounced noun phrase.

Tomioka notes that this analysis makes a typological prediction:

(59) *Discourse Pro-drop Generalization* (Tomioka's (37))
All languages which allow discourse pro-drop allow (robust) bare NP arguments.

Tomioka lists languages which fit this generalization as Japanese, Korean, Mandarin Chinese, Thai, Hindi, Turkish, and Brazilian Portuguese. English RWR also permits null articles and allows object drop, and so fits the Discourse Pro-drop Generalization. In the next section, I lay out in somewhat more detail how object drop in RWR can be derived from the presence of a null article, following Tomioka's proposal for Japanese.

5.2 The internal structure of a pronoun

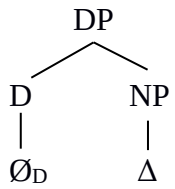
Since Postal (1969), it has been common to think of pronouns in English as being determiners (on the basis of the grammaticality of structures like *we linguists*, in which the pronoun appears in construction with a noun phrase). More recently, other authors (in particular Elbourne (2005); see also Kratzer (2009), Johnson (2012)) have suggested that pronominal DPs are in general forms of covert definite descriptions, where the pronoun part is a determiner which is in construction with null material. On such an analysis, there is a parallelism between (60a) and (60b): the pronouns *he, she, it* etc. belong to the class of determiners (like *four, some, a few* etc.) which license silent NP complements.[12]

(60) a. John bought three apples and Mary bought [$_{DP}$ four [$_{NP}$ Δ]]

b. he = [$_{DP}$ he [$_{NP}$ Δ]]

As was argued in section 4.3, the null determiner belongs to the same syntactic class as expressions like *four*, *some*, *a few*, and so it is plausible that it also licenses silent NP complements. We then predict that structures like the below should be possible.

(61)



As both the determiner and the noun phrase are silent, this is a completely silent DP – a null argument, created in much the same way as proposed by Tomioka (2003). If such structures are possible in RWR, then we predict that null arguments should be possible in RWR – which, of course, they are.

(62) a. Take two eggs and beat Ø thoroughly.

b. Syntax: [$_{VP}$ beat [$_{DP}$ Ø$_{D}$ [$_{NP}$ Δ]] (where Δ = *eggs*)

c. Semantics: Beat *f*(eggs), where *f* is a choice function picking out an individual in the extension of *eggs*: here, most plausibly, picking out the (plural) individual which *two eggs* has introduced to the discourse.

This is a welcome result. It means that the existence of null arguments in RWR is predicted from two independently motivated ingredients – the postulation of a null article, and an 'NP ellipsis' view of the structure of pronouns. Below, I show some other welcome predictions of this analysis.

5.3 The restriction to third person

Recall that dropped objects in RWR are restricted to third person.

(63) (repeated from (6))

a. Received credit card bill in mail today. Will shred (it/$Ø_{3p}$) later.

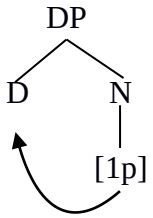
b. Don't send me any more emails. Will fire (you/*$Ø_{2p}$).

c. Don't want to talk to my boss. Would fire (me/*$Ø_{1p}$).

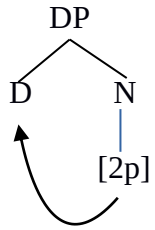
We can understand this if we assume that first- and second- person pronouns have different internal structures from third-person pronouns. Kratzer (2009) points out, following Siewierska (2004), that it is relatively typologically common for languages to lack third-person pronouns (instead using demonstratives or definite descriptions), but very typologically rare for languages to lack first- or second-person pronouns. Kratzer therefore argues for a different analysis of first- and second-person pronouns on the one hand and third-person pronouns on the other; while third-person pronouns are covert definite descriptions (of roughly the type assumed above and argued for by Elbourne (2005)), first- and second-person pronouns are directly referential. They are not determiners which combine with noun phrases.[13] Rather, Kratzer proposes that first- and second-person pronouns consist of phi-features merged in a noun position which then move to D, and which are pronounced

as *I* or *you* respectively.

(64) a. (Kratzer 2009:ex. (75), adapted)

(i) 

=> 'I'

(ii) 

=> 'you'

b. (Kratzer 2009:ex. (70), adapted)

$[[1p]]^c$ = the speaker in the discourse context *c*

$[[2p]]^c$ = the addressee in the discourse context *c*

Given this distinction, we would not expect the presence of a null article in RWR to generate null first- or second-person pronouns.[14] Articles/definite determiners are not involved in the creation of first- and second-person pronouns; they are not created via NP ellipsis/silence in the same way as third-person pronouns, and so the postulation of a null article in RWR does not interact with the spellout of first- or second-person pronouns. This analysis therefore correctly predicts that first- and second-person pronouns should not be able to go unpronounced in English RWR, which is what we see, at least in object position.

5.4 The failure to drop expletives

In example (11), repeated here, we saw that expletive objects could not be dropped.

(65) a. Considered (it/?*Ø) necessary to call the doctor.

b. Proved (there/?*Ø) to be ghosts in the attic.

c. Proved (it/?*Ø) to Mary to be necessary to call the doctor.

This can be explained on the current approach. The null pronoun/argument in RWR is hypothesized to come about via the combination of a null article $Ø_D$, which denotes a choice

function, and an elided or otherwise silent NP, which denotes a set of entities. Importantly, a DP constructed in such a way must be referential: it denotes a particular entity, the one picked out from the set of entities by the choice function. Expletive pronouns are not referential: whatever their internal structure is (if they even have internal structure), they are clearly not anything like covert definite descriptions or entity-denoting arguments. As such, we do not expect the null argument in RWR to appear in expletive position. The 'null article' theory of object drop in RWR therefore correctly predicts that expletive drop should be impossible.

5.5 Indefinite object drop

Tomioka (2003) shows that dropped pronouns in Japanese can have an indefinite reading (parallel to English *one*).

(66) (repeated from (57))
Ken-wa kuruma-o kat-ta. Erika-mo **pro** kat-ta.
Ken-TOP car-ACC buy-PERF Erika-also buy-PERF
'Ken bought a car. Erika bought a car/one, too.'

A reviewer points out that the present account makes the prediction that dropped objects in RWR should behave the same way, and asks if this is the case. The judgments here are subtle and informants give variable responses. I think that (67a) (provided by the reviewer) is somewhat degraded on the reading where the dropped pronoun is read as indefinite *one,* i.e. where the sentence has the reading "I sent a different bouquet to Maria today". However, other examples (67b) seem rather better, and I find examples like (68) rather well-formed, which suggests that an indefinite reading for dropped objects is in principle possible, even if some instances of it (like (67a)) are more awkward than others.

(67) a. ??Sent bouquet to Anna yesterday. Sent Ø to Maria today.

b. ?Did not buy ticket yesterday, but will buy Ø today.

(68) a. Prepare two baking sheets by covering Ø with parchment paper and smearing Ø with butter respectively.

b. Prepare two copies of your will. Send Ø to lawyer and keep Ø in safe place at home (respectively).[15]

The data is such that firm conclusions are difficult to draw here, but to the extent that the above cases are well-formed and indefinite readings of null pronouns are indeed possible in RWR, this lends support to the present analysis. In addition, it is not clear that topicality based analyses such as those discussed in section 3 would predict the grammaticality of the above cases, as on an indefinite reading, the null pronoun introduces a new entity into the discourse which would not obviously be topical or bindable by a topic operator.

5.6 Summary

I have argued that object drop in RWR is a consequence of article drop, following the analysis of Tomioka (2003) and his Discourse Pro-drop Generalization. This analysis, combined with independently motivated assumptions about the syntax of pronouns, predicts the restriction of object drop to third-person, referential objects only. I now turn to some remaining issues.

6. Remaining issues

6.1 Subject-object asymmetries

We have noted that subject and object pronouns in RWR are subject to a similar restriction as subject and object articles are: covert object articles/pronouns may not be c-commanded by overt subject articles/pronouns. The fact that this contrast exists suggested that it might be profitable to link the two, and explain object drop in terms of article drop, as has been done above. But, in the best of all worlds, we would want to know *why* this

generalization holds in the first place. Furthermore, we know that subjects can be non-overt in RWR, and that none of the restrictions we have discussed for object drop apply to subject drop (as discussed in section 2). For example, dropped subjects can be of any person (not just third person), and can be expletives. This suggests that the analysis defended here for object drop cannot extend simply to subject drop.[16] We then want to understand what mechanism creates null subjects. I lack the space to take either of these issues up in detail here. However, various suggestions have been made in the literature both for the subject-object asymmetry in article drop (e.g. Stowell 1991, 1999, this volume, Reich this volume, Weir 2013) and for the mechanism that licenses subject drop in RWR (Haegeman 1997, 2007, this volume). Hopefully work rooted in such analyses will help us understand why the c-command generalization should hold and why subject 'pro-drop' in RWR has different properties from object drop.

6.2 Which objects can drop?

The current analysis predicts that objects should be able to drop essentially anywhere. However, Massam & Roberge (1989) and Massam (1992) adduce the following data as examples of environments in which objects cannot drop: complements of prepositions (a, b), indirect objects (c), and objects in ECM/raising-to-object constructions (d).

(69) a. Take foil. Cover cookies with (it/*Ø) immediately.

b. Mix the lemon juice and chopped parsley. Then sprinkle scallops with (the mixture/*Ø).

c. Find the children. Give (them/*Ø) the cookies immediately.

d. Boil noodles. *Consider/assume/judge (them/*Ø) cooked when soft.[17]

Haegeman (1987b) provides (70a) as a similar example, and I add (70b, c).

(70) a. *Add the peanut oil to Ø.

b. ??Give no food to Ø. [e.g. a sign on a lion cage at a zoo]

c. ??Take pan of oil and place fish into Ø.

But it isn't the case that, for example, complements of prepositions cannot drop in general, as examples like (71) show.

(71) a. Do not play in Ø or around Ø. (Haegeman 1987b)

b. Great seller, would buy from Ø again.

c. Do not look at Ø without protective glasses.

d. Do not play with Ø.

It isn't clear what, if anything, predicts this distribution on the current analysis. We can note that the cases in (71) all lack overt noun phrases in object position before the empty category, while many of the bad cases in (69, 70) contain them. There may be therefore a generalized version of the c-command condition that governs the availability of null articles: a null object cannot be c-commanded by an overt one. This doesn't immediately follow from the analysis proposed thus far, however; and it also does not cover the badness of (69c), where there is no overt argument c-commanding the indirect object. It may be relevant that the objects in (71) can be promoted to subject in a passive construction (often analyzed as a process of 'reanalysis' of the preposition as a component part of the verb; see e.g. Postal (1971), Chomsky (1975), Hornstein & Weinberg (1981); see Baltin & Postal (1996) for a detailed list of references and a critique of the 'reanalysis' hypothesis).

(72) a. This sandpit was played in.

b. ?That seller was bought from.

c. That painting was looked at.

d. That toy was played with.

But, again, it is not clear why that should make a difference on the current analysis. It clearly

isn't a necessary condition on dropped objects that they should be in a position from which they can passivize, as the examples in (73, 74) show.

(73) a. Wait for ten minutes [before removing Ø from oven].

b. Drafted a nasty email, but will wait for a couple of days [before sending Ø].

(74) a. *The chicken was waited for ten minutes before removing from the oven.

b. *The email was waited for a couple of days before sending.

Rather, the generalization seems to be that only direct objects, or arguments which can be 'reanalyzed' as direct objects, can undergo object drop. It is worth noting that there is something of a parallel in 'radical *pro*-drop' languages; while object pro-drop is generally possible in Korean, for example, the complements of prepositions cannot be dropped (Jaehoon Choi, p.c.). Unfortunately, the source of this generalization remains unclear, and I have to leave a full understanding of it to future work.

7. Conclusion

I have argued that object drop in RWR follows from the availability of a null article in RWR, following the analysis of Tomioka (2003) and his Discourse Pro-Drop Generalization. An independent process of 'object drop' in RWR does not need to be assumed. The difference (in this respect) between RWR and spoken English lies in the lexicon: RWR has a null D while spoken English does not. While I do not believe that all (or even nearly all) of the differences between RWR and spoken English can be located in the lexicon, it does provides a simple locus for this particular variation, the lexicon being a component of grammar which is standardly assumed to vary between registers/dialects/languages. Moreover, this analysis makes correct predictions concerning the distribution of object drop; for example, the restriction to third person and the fact that expletives cannot drop.

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1 This example has an irrelevant grammatical parse where both an expletive subject and a passive auxiliary are dropped: <*It was*> *considered necessary to call the doctor*. I will not consider the phenomenon of auxiliary/copula drop in RWR here; Vinet (1993) contains some discussion of null copulas in French headlines, and Reich (this volume) discusses null copulas in English and German. Similarly, (b) has a parse with subject drop <*There*> *proved to be ghosts in the attic*.

2 (b, c) are intended to have imperative parses; with overt subjects these are slightly marginal even in spoken register (?*You keep them clean (at all times)*, ?*everyone keep them clean (at all times)*), but I think the contrast with the object-drop RWR cases is sharp.

3 This example is given a '??' judgment by Massam and Roberge (1989:ex. (9)). I do not concur with this judgment, finding it acceptable. I think that to the extent this example is degraded, it is because the use of the verb *try* is incompatible with the pragmatics of recipe register (the command should just be *beat carefully*: recipes do not usually enjoin the reader to 'try'). Compare the below example in a diary-type register, which seems fully acceptable:

(i) Received my credit card bill in the mail today; Ø will try [PRO to shred Ø later].

4 I change the example slightly from the null object example, so that the direct object of the main clause is not *these documents*; if that were moved, it could license a parasitic gap in the adjunct (*These documents, I printed t [before reading pg]*).

5 Facts like reflexive binding and the ability to control PRO also suggest that a subject is present (but unpronounced) in imperatives (see e.g. Beukema & Coopmans 1989); to that extent, there is doubt about whether a topic operator could go in subject position even in imperatives, as Massam proposes. That said, see Zwicky (1988) for an argument against the proposal that imperatives contain syntactically present subjects.

6 A reviewer suggests that he/she finds examples like this, and similar cases such as (2), fairly good in spoken register. Most of my informants find these cases highly degraded in spoken register, but it is possible that some speakers do allow for a kind of 'mimicking' of written register which would rule in cases like (35). I won't try to address the issue of this kind of 'register mimicking' here.

7 The reviewer offers the below examples, judging them good:

(i) Do not use $Ø_D$ hammer.

(ii) Have fever. Need to see $Ø_D$ doctor.

Judgments are again subtle here but I do not find (i) well-formed on what would be the low-scope reading, i.e. "do not use any hammer". Rather I can only give this a definite (and thus specific) interpretation: "do not use the hammer provided/nearby/etc.". The case of $Ø_D$ *doctor* in (ii) is less clear. Here I agree with the reviewer that this can mean "any doctor", but I note that (at least my dialect of) spoken English would allow *I need to see* ***the*** *doctor* here, with an apparently spurious definite determiner (this can still mean "I need to see any doctor"). I have to leave (ii) as a puzzle here.

8 One exception remains: objects of intensional transitive verbs like *call for* or *look for*, as in (i, ii) (thanks to the same reviewer for bringing this issue up):

(i) Teachers call for $Ø_D$ strike

(ii) Newspaper looks for $Ø_D$ local hero

These can receive non-specific interpretations. We might note that the object position of such verbs has been analyzed (by e.g. Zimmermann 1993) as being of property (<e,st>) type, which is what a bare NP like *strike* or *local hero* denotes. In these examples, then, we might say that there is genuinely no article involved, and *strike/local hero* are literally bare NPs; the mystery then is why *spoken* English requires indefinite articles in construction with singular indefinite NPs, even if they are objects of intensional transitive verbs. I have nothing to add to that mystery here.

9 The quantificational denotation being the 'standard' generalized quantifier semantics, i.e. [[a/some]] = $\lambda P.\ \lambda Q.\ \exists x.\ P(x)\ \&\ Q(x)$.

10 The existence of 'pseudoscope' (Kratzer 1998) – the binding of a parametric Skolem variable on the choice function creating the 'effect' of quantificational variability of the choice-functional indefinite – complicates the empirical picture somewhat here. I won't consider this in detail, but this possibility might explain why quantificationally variable readings for some noun phrases with null articles in RWR are possible, as the below examples show (thanks to Coppe van Urk (p.c.) for constructing example (i)):

(i) $Ø_D$ Guard posted in front of every building (can be different guard for each building)

(ii) $Ø_D$ New drug found 'every week' in EU (different drug each time; Herald.ie, Nov. 15 2012)

11 I do not adopt Reinhart (1997) or Winter (1998)'s position that choice function variables can be existentially closed at intermediate levels, as this would predict low-scope behavior for the choice-functional indefinite under e.g. modals. (However, see footnote 10 for a caveat about scope.)

12 I remain agnostic between whether the silent NPs in these cases are pro-forms, or

noun phrases which are deleted at PF. I represent them as pro-forms for expository purposes.

13 Kratzer's proposed syntax for third-person pronouns is slightly different in details from the determiner + elided NP analysis assumed here. For Kratzer, in a third person pronoun, D hosts a definiteness feature, and the N node which D combines with contains phi-features (e.g. [sg, masc]). There are then morphological rules which spell out the entire DP as (e.g.) *he*.

14 We do of course see null first- and second-person pronouns in *subject* position in RWR, as shown in example (5). This will be discussed somewhat in section 6.1.

15 I add *respectively* to ensure that the null objects are interpreted as *one* (and not collective *them*). This raises its own questions here, as *respectively* is not very felicitous with overt *one*: ??*Send one to your lawyer and keep one in a safe place respectively*. I do not understand why this should be the case.

16 Nothing prevents third-person referential dropped subjects being created in the way defended in this paper, i.e. from a null determiner plus a silent NP. But that can't be the sole way in which null subjects in RWR are created, given that null subjects can be first/second-person or expletives.

17 *Assume cooked when soft* is not degraded to my ear, but this can perhaps receive a parse where a subject and copula are being dropped: *assume <they are> cooked when soft*. I concur with the judgments concerning the other verbs; in particular, sentences like *Saw Bill yesterday. *Consider Ø an idiot.* are strongly degraded in diary register, for example.

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