

Resumption

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1 PHENOMENA AND ISSUES

The italicized pronouns of the English examples in (1), cited from Prince (1990), where they are attributed to Tony Kroch) are conventionally known as ‘resumptive’ pronouns.¹

- (1) a. There are guests who I am curious about what *they* are going to say.
 b. The only one we could see *her* figure was Number Two.

Compare the pronouns in (1) with those in (2):

- (2) a. Sally said that *she* would resign.
 b. Most people think that *they* have a right to a decent job.
 c. Every kid in my class who has a VCR knows how to program *it*.

What distinguishes the two cases? The pronouns in (1) appear in positions where one would, in a certain sense, have expected to find a gap, since relative clauses and constituent questions in English often (perhaps normally) contain a gap, as in (3):

- (3) a. There are guests that everyone wants to invite _ .
 b. the only one (who/that) we could see _ was Number Two.

Corresponding to the cases in (2), on the other hand, there is nothing like (3). This contrast is closely linked with a second. The pronouns in (1) are obligatorily bound, as gaps would be in the same positions. The pronouns in (2), on the other hand, are not so constrained; they are free to find their antecedents in the context of use. We can say as a start, then, that a resumptive pronoun is a pronominal element which is obligatorily bound, which appears in a position in which a gap might have appeared, and which is bound by the element which would have bound the gap in the corresponding filler-gap construction.

Two clarifications are now in order. The first involves the term ‘pronominal element’. I use this term, rather than the simpler ‘pronoun,’ because the range of elements which can serve in the resumptive function is quite broad. Besides including all categories of pronoun—tonic and clitic, overt and non-overt—it also includes epithets, which seem to be sufficiently pronominal to be able to serve in the resumptive function in certain languages and under certain conditions. This is shown, for example, by the informal English (4) (from Kroch (1981); see also Sells (1984b), Safir (1996), and especially Aoun et al. (2001)): ²

- (4) There was one prisoner who we couldn’t even figure out why *the poor guy* was in jail.

¹Those looking for a more comprehensive overview of many of the issues dealt with here should consult Alain Rouveret’s excellent introduction (pp 1–62) to Rouveret (2011a).

²It is perhaps unsurprising that this possibility should exist. Epithets exhibit a number of other ‘pronominal’ properties—they give rise to robust Condition C effects in languages (such as Thai or Vietnamese) in which only pronouns give rise to such effects (Lasnik (1989)) and, as noted more than once, may be bound by quantifiers.

The second clarification concerns what it means to be a filler-gap dependency. Discussion of resumption has largely centered on cases in which the pronoun appears in the variable position of an unbounded dependency construction—in relative clauses, constituent questions, clefts, comparative clauses, infinitival null-operator constructions and the like. In such structures, the ultimate binder of the pronoun occupies a so-called \bar{A} -position. But the phenomenon is almost certainly not restricted to such contexts and resumptive pronouns are also found in the gap position of A -movement dependencies (the cyclic NP-movements of earlier discussions). This much is especially clear from the many discussions of so-called ‘Copy Raising’ constructions (Joseph (1976), McCloskey & Sells (1988), Deprez (1992), Ura (1996), Moore (1998), Potsdam & Runner (2001), Asudeh (2002), and especially Rezac (2011) and Asudeh & Toivonen (2012)). Be that as it may, the focus here will be on those cases in which the informal term ‘filler gap dependency’ has its conventional meaning and will be exclusively concerned with the place of resumption in \bar{A} -dependencies. This decision more or less guarantees that we will not get at the whole truth, but it also guarantees that our discussion will be a faithful reflection of current thinking.

Even given this restricted characterization, though, the phenomenon of resumption is widespread among languages of the world, as illustrated very briefly in (5)–(8).

- (5) an ghirseach ar ghoid na síogaí í
 the girl C.PAST stole the fairies her
 ‘the girl who the fairies stole away’ IRISH (McCloskey (1990))
- (6) es un país que hablan tanto de él
 is a country C they-talk a-lot about it
 ‘It’s a country that they talk a lot about.’ INFORMAL SPANISH (Suñer (1998))
- (7) l-rizzeel jalli seeʔadt-o faʔiir ktiir
 the-man C help.2SG-him poor very
 ‘The man that you helped is very poor.’ LEBANESE ARABIC Haddad (2012)
- (8) ha-ʔiš še- raʔ ʔoto
 the-man C see.PAST.S1 him
 ‘the man that I saw’ HEBREW (Borer (1984))

Within the broad category of unbounded dependency constructions, attention has tended to focus on the case of relative clauses, but the phenomenon of resumption extends (at least in certain languages) to the entire range of unbounded dependency constructions. This is illustrated for constituent questions in two languages in (9) and (10), and for clefts in the Irish example in (11).

- (9) Céacu fear ar labhair tú leis?
 which-of-two man C.PAST spoke you with.MS3
 ‘Which man did you talk to?’ IRISH
- (10) ʔayya rəʔzeel ʔabbartu-u ʔenno ...
 which man tell.PAST.2P-him C
 ‘Which man did you tell that ...?’ LEBANESE ARABIC

- (11) Tigh beag caol gur mhaireamar ann.
 house little narrow C.PAST live.PAST.P1 in-it
 ‘It was a narrow little house that we lived in.’ IRISH

McCloskey (1990) provides a much more thorough discussion of the range of constructions in Irish in which resumptive pronouns may figure.

These observations are enough to allow us to frame the major questions which have shaped work on resumption. Since resumptive pronouns are pronouns (at least in their apparent form), a series of questions can be asked about where they fit in the context of the general theory of pronominal anaphora. To what extent do they share the properties of other classes of pronouns (those in (2), for instance)? But since they simultaneously appear in positions which are canonically associated with the appearance of gaps, one can also ask a series of questions about how resumptive elements interact with the processes which create gaps. If gaps in relative clauses and questions are always created by movement, this second question in turn becomes the following: to what extent does the relation between a resumptive element and its binder exhibit the properties of movement?

Much recent work engages these questions and in so doing seeks to understand the Janus-like nature of resumptive elements—one face towards the domain of pronouns and anaphoric elements, the other towards the domain of movement. Lurking behind all of this is the more fundamental question, seldom explicitly addressed, of why resumptive elements have the form that they do. The resumptive pronouns of a language simply ARE (formally) the pronouns of that language. I know of no report of a language that uses a morphologically or lexically distinct series of pronouns in the resumptive function.³ If we take this observation to be revealing, there can be no syntactic feature which distinguishes resumptive pronouns from ‘ordinary’ pronouns, and any appeal to such a feature must be construed as, at best, an indication of the limits of understanding.

2 EARLY TREATMENTS

Work of the 1970’s (especially in the second half of the decade) addressed these fundamental questions by assuming that unbounded dependency constructions were frequently derived by way of a rule which deleted bound pronouns in certain contexts—when bound by the head of a relative clause construction, for instance (Perlmutter (1972), Morgan (1972), McCloskey (1979), Bresnan & Grimshaw (1978)). An example like (12a), on this account, would have (12b) as its source and would involve deletion of the pronoun.

- (12) a. the guy that I talked to _
 b. the guy that I talked to *him*

³David Adger (2011) argues for an important qualification to this generalization in pointing to the existence in a number of languages of pronouns which, when locally bound, must not bear person-number features. As he is careful to point out however, the distinction in question is not actually a distinction between resumptive and non-resumptive pronouns, but rather between pronouns which are locally bound and pronouns which are anaphoric.

Resumptive pronouns, on this account, emerge when this rule fails to apply—either because the targeted pronoun occupies an inaccessible position, or else because the rule is optional. The synonymous Irish pair in (13), for example, would be taken to reflect optional application of the rule of bound pronoun deletion:

- (13) a. an ghirseach a ghoid na síogaí _
 the girl C.PAST stole the fairies
 ‘the girl who the fairies stole away’
 b. an ghirseach ar ghoid na síogaí í
 the girl C.PAST stole the fairies her
 ‘the girl who the fairies stole away’

The larger framework of assumptions here is something like the following:

- (i) Unbounded dependency constructions need to contain a bound variable, to be semantically well-formed.
- (ii) Pronouns are the devices which natural language canonically makes available for the expression of bound variables.
- (iii) The gaps characteristic of unbounded dependency constructions can be produced either by movement or by deletion of a bound pronoun.

On this view, then, the widely-noted tendency for resumptive elements to appear in inaccessible positions (inside islands say) reflects the island-sensitivity of the bound pronoun deletion rule.

A core assumption of course, is that movement and deletion are equally available in unbounded dependency constructions. On this view, for instance, (14a) in English would be derived by way of WH-movement, while (14c) would reflect application of a rule deleting the bound pronoun of (14b).

- (14) a. the guy who I talked to _
 b. the guy that I talked to *him*
 c. the guy that I talked to _

Since it depended on the postulation of unbounded and island-sensitive deletion rules (as in Ross (1967)), this framework of understanding was implicated in the debate in the second half of the 1970’s about the nature of island-hood and the existence of unbounded transformations. As that debate moved towards its resolution and the understanding of island-hood made available by the thesis of successive-cyclic rule-application (Chomsky (1973)) came to be widely-accepted, assumption (iii) came to seem untenable. With that assumption went the entire framework of understanding.

In the new context, the relations among the examples of (14) look rather different. (14a) and (14c) are both derived by movement of a relative pronoun and differ only in whether or not the fronted pronoun is subsequently deleted (or was phonologically null to begin with). Given this, the fundamental challenge becomes that of understanding how the presence of a pronoun (as in (14b)) can serve the same function as, or in some sense stand in for, a gap derived by movement. The relation between resumption and movement—what they share and how they differ—thus becomes

central.

3 ISSUES

Within that broad context, the following sharper questions emerge:

- (i) What mechanisms license the appearance of resumptive pronouns, and what is the place of those mechanisms in the typology of anaphoric interactions?
- (ii) How do those mechanisms relate to, and interact with, the movement mechanism?
- (iii) What defines the difference between languages which make productive use of resumptive elements and those which do not? How can this difference be understood in the larger setting of a theory of grammatical variation among languages?
- (iv) Is the pre-theoretical category ‘resumptive pronoun’ theoretically unitary? Or are there rather distinct types of elements and devices which are grouped under this rubric?
- (v) Are the filler-gap mechanism and the resumption mechanism of equal standing, or is one a default, the other a ‘last resort’?

A way of broaching these issues is to examine what have been thought to be the core properties of resumptive structures. That will lead us to a set of answers to questions (i)–(v) above which emerged in work of the middle and late 1980’s and which implicitly defined a framework that shaped much thinking about resumption in the period. Understanding that framework will in turn put us in a position to examine the various challenges that it has faced in more recent work.

4 PROPERTIES

4.1 IMMUNITY FROM CONSTRAINTS ON MOVEMENTS

The single most celebrated property of the binding relations that resumptive pronouns enter into is that they show no sensitivity to general constraints on movement. (We will consider exceptions and objections to this very general claim shortly.) This property has been familiar at least since the work of Ross (1967), where it was discussed as a sensitivity to the difference between ‘chopping’ rules (movement and deletion) and ‘copying’ rules (those which leave a pronominal copy in the origin site).⁴ I will illustrate the effect here with (attested) examples from Irish.

- (15) na hamhráin sin nach bhfuil fhios cé a chum iad
 the songs DEMON C-NEG is knowledge who C composed them
 ‘those songs for which it isn’t known who composed them’ WH-ISLAND

⁴This property of resumptive pronouns has played an important part in the investigation of weak island phenomena. Much work on the topic (see especially Cinque (1990), Chung (1994), and Postal (1998), anticipated by Perlmutter (1972)) argues that under certain conditions the apparent trace of \bar{A} -movement is in fact a silent resumptive pronoun. Given the amnestying effect of resumption on island violations, one can in this way understand why certain cases of (apparent) extraction out of islands are relatively well-formed.

- (16) cúpla teach aíochta a bhfuil cáil ar na béilí a ullmhaíonn siad
 couple house lodging.GEN C be.PRES fame on the meals C prepare.PRES they
 ‘a few inns that are famed for the meals they prepare’ RELATIVE CLAUSE ISLAND
- (17) cathracha nach sibh a chuir suas iad
 cities C-NEG you C put up them
 ‘cities that it wasn’t you that built them’ CLEFT WH-ISLAND
- (18) tús buairimh go n-imtheóchadh na blianta sara réidhteofaí é
 beginning sorrow.GEN C go-by.COND the years before relieve.COND-IMPERS it
 ‘the start of a grief that years would pass before it would be resolved’ ADJUNCT ISLAND
- (19) an uairfeartch nach bhfuarthas cómharta gur cluineadh í
 the howling C-NEG get.IMP.PAST sign C hear.IMP.PAST it
 ‘the howling that no sign was received that it had been heard’ N-COMPLEMENT ISLAND

It is perhaps worth pointing out that even very complex examples involving islands within islands are fully well-formed when resumption is deployed. In (20), for example (an attested example), the (first) resumptive is contained within an adjunct island which is in turn contained within a relative clause island, both of which exclude the ultimate binder of the pronoun (the relative clause head):

- (20) chun an ghoirt úd go mbraithim pé díth sláinte a bhíonn orm
 to the field DEMON C I-feel whatever absence health.GEN C is on-me
 ag dul ann dom ag scaradh liom le linn é a fhágaint dom
 PROG-go in-it to-me PROG-separate with-me when it INF-leave to-me
 ‘to that field that I feel whatever ill-health is on me as I enter it parting from me as I leave it’

The examples cited in (15)–(20) illustrate a lack of sensitivity to subjacency effects, but it is well known that resumptive pronouns also amnesty ungrammaticalities classically attributed to the Empty Category Principle (ECP), as can be seen in the (informal) English examples in (21):

- (21) a. He’s the kind of guy that you never know what he’s thinking.
 b. *He’s the kind of guy that you never know what _ is thinking.
 c. They’re the kind of people that you can never be sure whether or not they’ll be on time.
 d. *They’re the kind of people that you can never be sure whether or not _ will be on time.

4.2 STRONG CROSSOVER

The relation between a resumptive pronoun and its binder, then, does not show sensitivity to the locality conditions thought to be diagnostic of the movement relation. It does, however, exhibit a number of properties characteristic of \bar{A} -binding. Specifically, the bound element itself behaves like a variable (understood for present purposes as being an element whose most local binder occupies an \bar{A} -position). There are at least two senses in which this is true. At the most fundamental level, it is the resumptive element which is the syntactic correlative of the semantic variable which is found in every \bar{A} -binding construction. In addition, though, there is a more specific sense in which resumptive

pronouns ‘behave like variables’. Traces left by movement to \bar{A} -positions are subject to the Strong Crossover effect (Postal (1971), Wasow (1974)) defined in (22) and exemplified in (23):

(22) STRONG CROSSOVER EFFECT

The trace of movement to an \bar{A} -position may not be anaphorically linked with a c-commanding pronoun.

(23) *Who did she_j claim [_ j had arrived earliest]?

In (23), the gap in the embedded subject position is c-commanded by, and co-indexed with, the pronoun *she*, resulting in ungrammaticality. Chomsky (1981) proposes to derive this effect from Condition c of the Binding Theory, which requires that a certain class of elements (non-pronominal DP’s in particular) not be bound by an element in an A-position. Whether or not this proposal is right (see Lasnik (1989) for a proposed refinement and Postal (1997) for an argument that the approach is misguided), the phenomenon itself provides us with a useful question to ask: do resumptives resemble WH-traces in giving rise to Strong Crossover effects? The answer so far seems to be that they do. The Irish example in (24) (from McCloskey (1990)) is typical:

(24) *Sin an fear ar dhúirt an bastard go maródh sé muid.

that the man c said the bastard c kill.COND he us

‘That’s the man_j that the bastard_j said that he_j would kill us.’

IRISH

The experiment was subsequently replicated in a number of Semitic languages—see Shlonsky (1992) on Hebrew and Palestinian Arabic, Aoun et al. (2001) on Lebanese Arabic.

4.3 WEAK CROSSOVER

Although resumptive pronouns share with variables a sensitivity to Strong Crossover, a body of observation emerged quite early (Sells (1984a,b), McCloskey (1990), Shlonsky (1992)) suggesting that they show no Weak Crossover effects.⁵ Weak Crossover (Wasow (1974) and volumes of later work) arises when a variable corefers with a pronoun which does not c-command it. The Irish example in (25), however, is fully grammatical in contrast with its English translation, which is degraded to some degree (Safir (1984, 1986, 1996)):

(25) an fear_j ar fhág a_j bhean é_j
 the man c left his wife him
 ‘the man_j that his_j wife left _ j’

4.4 ANTILOCALITY AND THE HIGHEST SUBJECT RESTRICTION

But if resumptive pronouns behave like variables, they also show what looks like a pronominal property. Pronouns are subject to an antilocality requirement—a pronoun and its antecedent cannot oc-

⁵We will discuss apparent exceptions shortly. For extended discussion and an important counter-proposal, see Demirdache & Percus (2011).

copy the same local domain. In the area of A-binding, this requirement is encapsulated in Condition B of the Binding Theory (Chomsky (1981)), whose effect is seen in English cases like (26):

- (26) a. *Charles_j is proud of him_j.
 b. *Each actress_j nominated her_j.

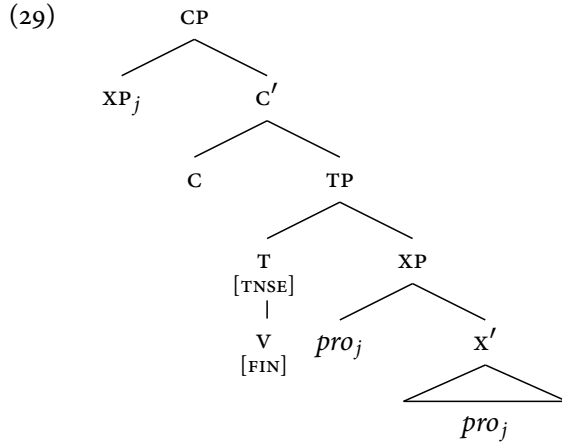
Resumptive pronouns in a range of languages (Doron (1982), Borer (1984), Shlonsky (1992), Ouhalla (1993), Schafer (1994), Bondaruk (1995), Krapova (2009), Harizanov (2011)) show a restriction which has been argued to be grounded in a similar allergy to binding that is too local. In these languages, a resumptive element may not occupy a subject-position immediately subjacent to its binder. This condition, known as the HIGHEST SUBJECT RESTRICTION (McCloskey (1990)), is illustrated with the contrasting Irish examples in (27a) and (27b):

- (27) a. *fear nár fhan sé sa bhaile
 man C-NEG.PAST remained he in-the home
 'a man that didn't stay at home' IRISH
- b. fear nár fhan _ sa bhaile
 man C-NEG.PAST remain in-the home
 'a man that didn't stay at home' IRISH

Many analyses make a link between this phenomenon and the antilocality property typical of pronouns in general (Borer (1984), McCloskey (1990)). One way of implementing the general idea is presented in McCloskey (1990), drawing on earlier work by Aoun & Li (1989). There it is proposed that the disjointness requirement defined by Principle B of the Binding Theory should be extended to the domain of \bar{A} -binding. A formulation like the one below has the required consequences (Aoun & Li (1989), Aoun & Li (1990), McCloskey (1990), Aoun & Li (1993)):

- (28) THE A-BAR DISJOINTNESS REQUIREMENT
 A pronoun must be \bar{A} -free in the least complete functional complex containing the pronoun and a subject distinct from the pronoun.

To see how this will work, consider the schematic structure in (29).



Assume for present purposes that the specifier of XP in (29) is the ‘subject position’ in the language in question. If the element in specifier of CP binds the occurrence of *pro_j* within *x'* (this will by definition be a non-subject), then the binding is not in violation of (28), since the relevant CFC in this case is TP, and the pronoun is in fact \bar{A} -free within TP. When the element in specifier of CP binds *pro_j* in the specifier of XP, on the other hand, the structure stands in violation of (28) since here the least CFC containing the pronoun and a subject distinct from the pronoun is the higher TP (or the root) and the pronoun is not \bar{A} -free in this domain. There are numerous known difficulties for this approach,⁶ but it is not irrational to hope that those difficulties could be resolved without sacrificing the essence of the proposal.

In sum, then, in many languages resumptive elements show the following array of properties:

- (i) their relation with their binders is island-insensitive
- (ii) they share with variables the property of triggering Strong Crossover effects
- (iii) the binding relation they enter into does not show Weak Crossover effects
- (iv) the binding relation they enter into is constrained by an antilocality requirement reminiscent of Principle B of the binding theory.

⁶For some difficulties internal to Irish, see (McCloskey, 1990:footnote 14). Most revolve around an equivocation in (28) concerning the term ‘subject’—which is not well-defined. An additional concern is that languages which have the Highest Subject Restriction in some form seem to differ in how they treat embedded subjects. In Irish, subjects of embedded clauses may freely serve the resumptive function (McCloskey, 1990:pp 210, 240). But in Lebanese Arabic (Aoun et al. (2001)) they cannot. Certain languages (literary Welsh, Russian, Zurich German) ban both subject and object resumptives from the highest clause (Harlow (1981), Sells (1984b), Deprez & Hale (1986), Pesetsky (1998), Broihier (1995), Riemsdijk (1989)). Finally, not all languages which exhibit resumptive pronouns exhibit the HSR effect. We will consider a suggestion about one such group of languages shortly, but that suggestion will leave a number of cases untouched (see Suñer (1998), for instance, on (informal) Spanish, and Prince (1990) on Yiddish). Perhaps in such cases, there is no \bar{A} -binder at all and the pronoun trivially satisfies the \bar{A} -Disjointness Requirement. For alternative approaches to the HSR effect, see Deprez & Hale (1986), Shlonsky (1992), Pesetsky (1998).

4.5 A FRAMEWORK OF UNDERSTANDING

If such generalizations survive scrutiny, a consistent overall understanding emerges:

- The consensus view, since Lasnik (1976), had been that pronouns must be base-generated rather than created by transformation.⁷
- Resumptive pronouns look just like ordinary pronouns. Therefore the null hypothesis is that resumptive pronouns should also be taken to be base-generated.
- Since the relation between the resumptive and its binder is therefore not created by movement, no sensitivity to constraints on movement is expected.
- But it has been independently argued by Safir (1986) that the notion of ‘variable’ should be defined contextually (a variable is an element whose most local binder occupies an \bar{A} -position).
- That being so, resumptive pronouns must be variables and should be subject to Condition c. We therefore expect Strong Crossover effects.
- But resumptive pronouns are also pronouns. Therefore it is natural that they should exhibit the antilocality requirement characteristic of pronouns in general. This is the source of the Highest Subject Restriction.
- The absence of Weak Crossover effects is also consistent with the overall conception. Safir (1984, 1986, 1996) argues that Weak Crossover is to be understood as a violation of a general parallelism constraint which requires that all the variables bound by a single operator be of the same type—all pronominal or all non-pronominal. This requirement is respected in the Irish example in (25) (since both variables are pronouns) but violated in its English translation.

Standing back from the specifics, the intuition here is that unbounded dependency constructions are characterized by the presence of a bound variable, and that natural language provides two distinct ways to realize variable binding relationships—by way of a bound pronoun or by way of movement from the bound to the binding position.

5 OPEN ISSUES

It would be a large overstatement to call the understanding just sketched a ‘consensus’. But something like this framework of ideas guided much work on resumption in the middle and late 1980’s and into the 1990’s, and an interesting research-agenda emerged from it—one that grappled with the important issues which it left unresolved. We will first survey some of those issues (many of them remain important) and then consider the ways in which the intellectual landscape shifted and became more complex, especially in work of the new millennium.

⁷See Hornstein (2001), Kayne (2002) for an argument that the consensus should be re-considered.

5.1 LEVELS OF REPRESENTATION

One of those issues concerns the level of representation at which resumptive pronouns are defined as variables, the two candidates most often considered being s-structure and LF. Chomsky (1982) argued that resumptive pronouns in English were identified as such (by being bound) only at the level of Logical Form. McCloskey (1990) presents an argument from Irish that resumptive pronouns in that language must be distinguishable from other pronouns at the level of s-structure. Shlonsky (1992) counters the argument and suggests a return to the position of Chomsky (1982). One of the principal empirical issues at stake here is the question of whether or not resumptive pronouns license the appearance of parasitic gaps (an indicator of s-structure \bar{A} -binding). Sells (1984b) argued that, at least in Hebrew, resumptive pronouns do license the appearance of parasitic gaps and concluded that they must represent s-structure variables. Shlonsky (1992) challenges both the empirical claim and the conclusion derived from it.

5.2 LAST RESORT?

A second issue is whether or not the use of resumptive pronouns represents a last resort mechanism. The conception of resumption just outlined provides no reason to expect that it might in any sense represent a reach for the last resort. Resumption simply represents (on this view) one of the ways in which an \bar{A} -binding relation can be established. But many theoreticians have had the intuition that resumption is in fact a last resort mechanism, and have striven to design theories in which it would follow that resumption would be available only if movement (the unmarked way, on this view, to establish an operator-variable binding) were unavailable.

Conventional wisdom for English holds that resumptive pronouns appear, if not exclusively then at least in the general case, in positions from which movement would be impossible (see (21) above, for instance). But for many languages in which the resumptive strategy is more productively used, the situation seems different. And even for English, corpus studies (Prince (1990, 1997), Cann et al. (2005)) tend to suggest that the conventional wisdom is not in fact correct for English either.⁸ The apparent fact for Irish and similar languages is that resumptive pronouns and gaps are in free variation in all positions except those from which movement is impossible (in which resumption is the only option) and those affected by the Highest Subject Restriction (see (27) and (28)), in which only a gap is possible. Similar facts appear to hold in Hebrew.⁹

⁸McDaniel et al. (1997) also report experimental data suggesting that children learning English (unlike adults) accept resumptive pronouns in positions in which traces are also possible.

⁹The qualifying 'appear' is important here, because many of those who have argued for the last resort character of the resumption mechanism (Shlonsky (1992), Pesetsky (1998)) have argued for the existence of hidden factors which block movement (and hence force the appearance of resumptive pronouns) in all the cases in which resumptive pronouns appear. I know of no suggestion about what these hidden factors might be in the case of Irish. This issue is closely connected with the issue of how to understand the Highest Subject Restriction. If movement is freely available from subject-position, and if resumption is possible only when movement is impossible, then it will follow that resumptive pronouns will never appear in subject position. See Shlonsky (1992) in particular for a development of this line of thought.

5.3 THE IDENTITY OF THE BINDING ELEMENT

The issues considered so far have been the focus of a great deal of discussion. In this section I want to highlight an issue which is, in view, of central importance, but which has been less discussed.

There is strong evidence (as we have seen) that resumptive pronouns function as ‘variables’ in the technical sense. Given the theoretical context in which we are working, this means that they must have a binder (a coindexed element in a c-commanding \bar{A} -position). There has also seemed to be strong evidence that the local binder of the resumptive element cannot be the overt element with which it is ultimately linked—the head of a relative clause, the interrogative phrase of a question, the focused phrase of a cleft and so on (McCloskey (1990), Safir (1986)). The evidence seems rather to suggest that that ultimate binding is mediated by a more local binding—between the resumptive pronoun and an element in CP. The Irish evidence, as we will see below, seems to be particularly clear on this point.

But what then should the binder of the resumptive pronoun be taken to be? The answer that has usually been given is that the binding element must be a null operator base-generated in the specifier-position of CP. The null operator is linked in turn with the ultimate binder by way of the relation called ‘R-Binding’ by Safir (1984). For the case of an interrogative structure, then, we will have the schematic structure in (30a) and for a relative clause, the schematic structure in (30b):

- (30) a. [DP [CP OP_j C [TP ... *pro*_j ...]]]
 b. [^[Q]NP [CP OP_j C [TP ... *pro*_j ...]]]

There is a worry here, though—a worry that one might label ‘the problem of eternal silence’. I mean by this that there are no cases, as far as I have been able to determine, in which the postulated operator is other than null. No language, I believe, has an element *foo* such that one finds relative clauses analogous to (31):

- (31) [DP the guy [CP *foo* that [TP I spoke to him]]]

What one finds over and over again is some equivalent of (32), with no audible element occupying the specifier-position of CP:

- (32) [DP the guy [CP that [TP I spoke to him]]]

The conception of resumption as we have outlined it so far has no explanation for the apparent absolute absence of (31), an absence which is hardly accidental. If invariant binding operators exist, it is not obvious what principle would force such operators to be phonologically null in every case.

The only set of proposals in this general family, as far as I know, which is not subject to this concern is that developed by Hamida Demirdache (1991, building in part on Browning (1987), extended and developed in important ways in Demirdache & Percus (2011)), who argues that the specifier position of CP is empty until LF. In the derivation of LF representations, the resumptive pronoun itself is taken to move into the specifier of CP. As long as movement between s-structure and LF is not subject to the same locality requirements as overt movement (Huang (1982) and much subsequent

work), this analysis is tenable and attractive.

5.4 PARAMETERS OF VARIATION

Finally, a remaining (and important) open issue concerns how language-particular differences in this domain are to be characterized. For some languages (Hebrew, Lebanese Arabic, Irish) resumption is a fully-integrated aspect of the grammatical system. For others (English, for instance), it is typically regarded as an auxiliary phenomenon, not part of the grammar proper, but rather a device that speakers resort to under certain performance conditions (increased processing load in particular—Erteschik-Shir (1992), Dickey (1996)). Chao & Sells (1983) and Sells (1984b) present evidence from English that the distinction between the two language-types is necessary, delineate some of the distinctive characteristics of the two types, and introduce the term ‘intrusive resumption’ for the English type. They point out in particular that resumption in English relative clauses is degraded if the ultimate antecedent is quantificational:

- (33) *I’d like to meet every linguist that Mary wondered if she should invite *him* to the party.

We will return to these issues shortly in a slightly different context, but if the distinction between intrusive and grammatical resumption is well supported, as is widely assumed, then the theory of parameterization must provide a way to distinguish the two language-types. One proposal which has seemed plausible is that the relevant property is a property of the functional head *c*. If resumptive pronouns are bound by null operators in the specifier of *CP*, then it is natural that the heads which host such binding operators in their specifiers should bear a distinctive morphosyntactic feature. In this light, it is significant that in Irish (and also in Bulgarian—see Rudin (1986), Krapova (2009), Harizanov (2011)) there is a distinctive finite complementizer which appears in the context of resumption. The morphosyntactic feature which sets that complementizer apart from others can then be taken to reflect the relevant parametric property. The crucial facts are illustrated for Irish in the two examples of (34):

- (34) a. an ghirseach a ghoid na síogaí _
 the girl *c*₁ stole the fairies
 ‘the girl who the fairies stole’
 b. an ghirseach ar ghoid na síogaí í
 the girl *c*₂ stole the fairies her
 ‘the girl who the fairies stole’

IRISH

Here there are distinct complementizers (*a* versus *ar* in this context) depending on whether we have binding of a gap or binding of a pronoun (see McCloskey (1990, 2001, 2002) for detailed discussion). If this line of analysis stands, then this instance of parameterization is in harmony with the conjecture (called the ‘Borer Chomsky Conjecture’ by Mark Baker (2008)) that parametric differences reflect featural properties of functional lexical items.

6 MOVEMENT AND RESUMPTION

The issues just surveyed are substantial; some seem soluble, some seem deeper. Overall, though, the conception is internally coherent and could make some claim to cross-linguistic generality. We must now look, though, at some issues which pose more fundamental problems and force substantial revisions. All have to do with the interplay between resumption and movement.

6.1 SWEDISH, VATA AND GBADI

Engdahl (1985) provides one of the earliest comprehensive studies of resumption in a given language—Swedish in this case. A typical example is given in (35):

- (35) Vilket ord visste ingen hur det stavas?
 which word knew nobody how it is-spelled
 ‘Which word did nobody know how it is spelled?’ SWEDISH

Engdahl establishes that resumptive pronouns in Swedish have the following array of properties:

- they license parasitic gaps; see (36),
 - they give rise to weak crossover effects,
 - they satisfy the ATB requirement on extraction from coordinate structures; see (37),
 - they worsen, rather than improve, subjacency violations; see (38), and
 - they ‘are used systematically only in the subject position of tensed clauses’—in fact, to void what would otherwise be ‘COMP-trace’ violations (p. 11).
- (36) Vilken fånge var det läkarna inte kunde avgöra om han verkligen var sjuk utan
 which prisoner was it the-doctors not could decide if he really was ill without
 att tala med _ personligen?
 to talk with in-person
 ‘Which prisoner was it that the doctors couldn’t decide if he really was ill without talking to in person?’
- (37) Det finns vissa ord som jag ofta träffar på _ men inte minns hur de
 EXP are certain words that I often come-across but not remember how they
 stavas.
 are-spelled
 ‘There are certain words that I often come across but never remember how they are spelled.’
- (38) ?*Vilken bil åt du lunch med någon som körde den?
 which car ate you lunch with someone that drove it
 ‘Which car did you have lunch with someone that drove (it)?’

Engdahl concludes from these observations that resumptive pronouns in Swedish ‘behave just like WH-traces’ and are ‘phonetically realized traces’.

At about the same time, and independently, Hilda Koopman 1982 (see also (Koopman, 1984:sections 2.3.3.2 and 6.2.4)) made a very similar set of observations and drew similar conclusions about the behavior of resumptive pronouns in two Kru languages of North Africa—Vata and Gbadi.

In a similar vein, Tallerman (1983) reported for Welsh that the binding of clitic resumptive pronouns is island-sensitive in that language while the binding of augmented or independent resumptives is not, suggesting perhaps that clitic resumptives in that language are movement-derived while independent, or augmented, pronouns are not.

Faced with these observations, it becomes difficult to maintain the most straightforward view of the relation between resumptive pronouns and \bar{A} -bound gaps. Inspection of the string will never be enough to establish if a given instance of \bar{A} -binding is established by way of movement or by way of binding (and see Cinque (1990: Chap.3) and Postal (1998: Chap. 2) for evidence that silence in the gap position does not always imply the full suite of movement properties either).

But if it is possible to make sense of the idea that a pronoun can be the phonological exponent of a moved phrase, the larger conceptual architecture is not severely threatened. And with the advent of the Minimalist Program for syntax (Chomsky (1993, 1995, 2000, 2001)) the idea of ‘spelling out a trace’ became less mysterious than it was when first proposed. If movement involves the creation of multiple occurrences of a single phrase, then it must be asked in which position or in which positions the ‘moved’ phrase is realized. And there are languages, it seems, in which almost all of the occurrences of a single phrase may be realized phonologically, as seen for instance in Alber’s careful (2008) study of Tyrolean German:

- (39) a. Prum glapsch du prum dass dr Hons net kemmen isch?
 why think you why c not come is
 ‘Why do you think Hans did not come’ (Alber, 2008:(21a))
- b. die Fraindin mit der wos sie glap mit der wos die Maria spielen tat.
 the friend with who c she thinks with who c play would
 ‘the friend with whom she thinks that Maria should play.’ (Alber, 2008:(21b))

From this, it is a relatively small step to the idea that a DP which has undergone \bar{A} -movement might be realized phonologically; and it is a smaller step still to imagine that the lowest of those occurrences might be only partially realized—say as a head D. And if pronouns are determiner heads with no (audible) complement (Postal (1970), Abney (1987), Koopman (1999), Déchaine & Wiltschko (2002), Sauerland (2000, 2008), Elbourne (2001) among many others), we will have, with little extra theoretical machinery, movement chains which respect the usual locality conditions but which terminate in pronouns.¹⁰ The type of resumptive element documented by Engdahl and Koopman (showing a full array of movement-related properties but pronounced as D) seems to virtually demand a treatment along these lines. If this interpretation is correct, the pretheoretical category ‘resumption’ does not represent a theoretically uniform phenomenon (issue (iv) of section 3 above); rather, apparently similar surface forms across and within languages hide very different derivational histories. It should

¹⁰Recent treatments of clitic doubling invoke very similar mechanisms for A-Chains, except that in that case it is the head rather than the tail of the chain which is realized as a clitic pronoun. See Anagnostopoulou (2003), Harizanov (2014).

hardly be surprising that this turns out to be the case.¹¹

Obviously a great deal remains to be resolved here. For our purposes though, what is important is that there is an important sense in which these results do not challenge in any very deep way what I have called here (optimistically) the consensus view. The two sets of properties—those of movement-derived constructions and those of non movement-derived constructions—still line up in neat opposition. In Swedish, Vata and Gbadi, \bar{A} -binding relations which terminate in a pronoun show a constellation of properties characteristic of \bar{A} -movement. In Irish and similar languages, resumptive pronoun constructions show none of those properties. Beginning in the early years of the second millennium, however, a series of important studies posed more fundamental challenges for this overall view.

7 CHALLENGES AND EXPERIMENTS

Since 2000, two principal strands of research have enlivened debate about the status of resumption, although, interestingly, they have made little contact with one another. The first such strand proposes to extend the role of syntactic movement in understanding resumption and develops a new way of understanding what kind of movement might be involved. The second strand uses new methodologies, focusing on (i) large-scale acceptability studies and (ii) psycholinguistic studies of the production and processing of resumptive structures. This second strand of investigation has opened important new perspectives on the relation between grammars and production systems. We begin, though, with the first strand.

7.1 MOVEMENT REDUX

Two studies published at the beginning of the second millennium were of central importance in extending the role of movement in analyses of resumption—Aoun et al. (2001) and Boeckx (2003). Central to the concerns of Aoun et al. (2001) were questions about reconstruction and its interaction with resumption, and in this it is typical of much of the new work.¹² The issues had been raised before

¹¹It also seems to follow that subject ECP effects must be, in some important sense, phonological. On the view we are currently exploring, the difference between Swedish (35) and its ungrammatical counterpart without the subject resumptive is detectable only after spell-out routines have done their work. See McDaniel & Cowart (1999) for relevant discussion of the English counterparts. This conclusion in turn makes contact with the strand of more recent work which suggests that many traditional island and ECP effects may find their explanation in the space between the syntax proper and the linearized prosodic and phonological string—a move driven in part by study of cases in which ellipsis ameliorates what would otherwise have been island violations (Ross (1969), Merchant (2001), Lasnik (2000), Fox & Lasnik (2003, 2004), Boeckx (2003)). See also De Chene (1995) for relevant observations.

¹²This is not true of Boeckx (2003), however, whose discussion of reconstruction effects under resumption (pp. 155–157) is notably brief and tentative. For Boeckx, the principal argument for analyzing resumptive elements via movement derives from the Condition C effects discussed above in section 4.2, which are taken to be “suggestive of movement” (p. 20). Boeckx’ account goes a step further than Aoun et al. (2001) in arguing for a uniform analysis of resumptive elements in which they are always derived by movement from structures like (41), even when they occur inside islands and the resultant movement must therefore be island-violating. This is possible within the framework developed in the book because it is assumed there that the core movement operation may be de-coupled from Chomsky’s (2000; 2001) AGREE,

(twenty years earlier) in Zaenen et al. (1981), which demonstrated systematic reconstruction effects under resumption for Swedish. But since the movement analysis of resumption is well supported for that language (see section 6.1 above), this positive finding is expected. Twenty-eight years later, Iliana Krapova (2009) demonstrated that, in Bulgarian, reconstruction effects are entirely absent under resumption. If Swedish and Bulgarian were the only extant language-types with respect to this interaction, then theoretical interpretation would be straightforward. In fact however, what has emerged from the extensive program of research that was re-initiated by the appearance of Aoun et al. (2001) is that there is remarkable and complex variation across languages with respect to how resumption and reconstruction interact.

The central observation made about Lebanese Arabic by Aoun et al. (2001)¹³ is that resumptive elements behave differently with respect to certain binding patterns, depending on whether or not they appear inside islands. The kind of case they are concerned with is (40), (25b) from their paper:

- (40) təlmiiz-a l-kəsleen ma abbarna walla mʔallme ənno huwwə zaʔbar
 student-her the-bad NEG told-1.PL no teacher that he cheated.3.SG.MASC
 b-l-faħs
 in-the-exam
 ‘Her bad student, we didn’t tell any teacher that *he* cheated on the exam.’

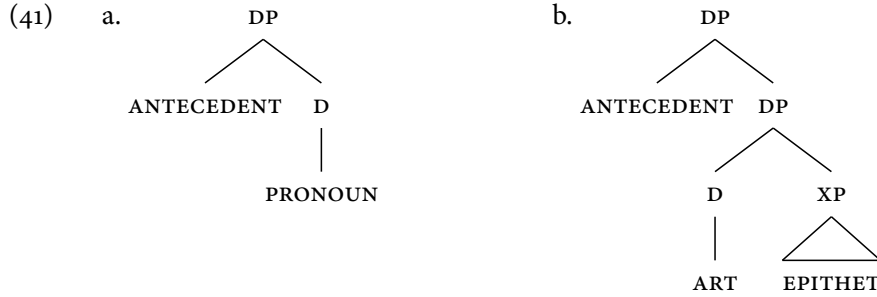
LEBANESE ARABIC

In (40), the pronoun within the fronted phrase can be bound by the negative quantifier *walla mʔallme* (‘no teacher’). If such binding is possible only when the quantifier c-commands the pronoun, then the phrase *təlmiiz-a l-kəsleen* (‘her bad student’) must at some level of syntactic representation be in the domain of the negative quantifier. Aoun et al. (2001) argue that this implies a movement origin for the resumptive. As for the kind of movement involved, the paper (along with Boeckx (2003)) proposes that antecedent and resumptive begin life as a single, large, DP-constituent, out of which the antecedent raises, stranding the resumptive element. (41a) indicates schematically the structure assumed for clitic resumptives; (41b) is what is assumed for resumptive epithets.¹⁴

which is the real locus of the locality constraints which lie behind island phenomena. Movement does, however, depend on the establishment of feature-matching between the targeted phrase and the probe which attracts it; this relation (MATCH) is remarkably free of locality constraints, so as to allow cases like the Irish (20) above. See Adger & Ramchand (2005) for related discussion concerning AGREE as the real locus of the locality constraints found in \bar{A} -binding structures.

¹³Aoun et al. (2001) builds on an important series of earlier papers: Aoun & Choueiri (1996), Aoun & Benmamoun (1998), Aoun & Choueiri (2000). See also Boeckx & Hornstein (2008).

¹⁴Haddad (2012) points out a difficulty for this proposal: the structure in (41)a is not in fact independently attested in Lebanese Arabic. It is not clear why this should be so.



This overall interpretation of the facts is supported by the important observation that when the resumptive element is inside an island which excludes the binder, the bound interpretation of the pronoun becomes unavailable. Aoun et al. conclude that in Lebanese Arabic resumptive pronouns outside islands are formed by movement, while those inside islands are not.

The set of investigations launched by Aoun et al. (2001) has resulted in a great deal of new knowledge (see Rouveret (2011b: pp 31–37) for an excellent overview), but it remains very unclear what theoretical interpretation is warranted by this new knowledge. The empirical situation is summed up accurately by Rouveret (2011b: p. 32) when he concludes that resumptive structures ‘show some of the reconstruction effects displayed by \bar{a} -dependencies involving a gap, but not all of them’. In particular, variable binding under reconstruction (as in the Lebanese Arabic example in (40)) has been shown to be possible in many languages, and very often across island boundaries (see Malkawi (2009) on Jordanian Arabic, Guillot (2006) on French, Salzmann (2011) on Zurich German). But very few, if any, other reconstruction effects have been well established.¹⁵

This is important, because of all the interpretive effects for which a claim can be made that syntactic reconstruction is required, variable binding is probably the one for which the empirical basis is least well established. Barker (2012) provides an extensive overview of the available evidence and concludes that there is strong evidence against any syntactic requirement of command on the quantifier variable relation, once the effects of scope are factored out. Typical of the kind of evidence he cites is (42) (due ultimately to Lauri Karttunen):

(42) The grade that each student receives is recorded in his file.

¹⁵Rouveret (2002, 2008) argues for reconstruction for Condition A in Welsh resumptive structures. The reflexive pronouns in question, however, (formed by adding the element *hun* to an ordinary pronoun) have strong logophoric/exempt interpretations, as in the attested example in (i), which I owe to David Willis:

- (i) byddai ef yn sicrhau na byddai ond angen rhyw ddau actor arall ac yntau ei
 be.COND.3SG he PROG ENSURE.INF NEG.COMP be.COND.3SG but need some two actor other and he he
 hun ...
 REFL.3SG
 ‘he would ensure that there was only need for some two other actors and himself ...’

It is therefore very difficult to know whether the relevant interpretation is to be attributed to logophoricity or to (syntactic) reconstruction. Salzmann (2011) also documents reconstruction for reflexive binding in Zurich German.

In (42) the pronoun *his* is bound by the quantifier *each student* but it is very hard to imagine a believable syntactic representation in which that quantifier c-commands the pronoun it binds. But if there is no syntactic requirement of command between quantifier and variable, it is hard to know what to conclude about movement from observations like (40). There are, in addition, well-known and well-understood alternative mechanisms available which would guarantee the appropriate binding relations in such examples—by way of ‘semantic reconstruction’ for instance (Halvorsen (1978), Cresti (1995), Rullmann (1995), Lechner (1998) among many others), depending on what semantic type is assumed for the resumptive element,¹⁶ or by appealing to the role of implicit content within the resumptive pronoun itself (as in Guillot (2006), Guillot & Malkawi (2007), Malkawi & Guillot (2007), Malkawi (2009), building on Sauerland (2000, 2008), Elbourne (2001)).

An equally plausible, and equally optimistic, assessment at present is that resumption will provide us with a good diagnostic for which ‘reconstruction effects’ are best attributed to semantic reconstruction (binding of a variable of the semantic type of a generalized quantifier) and which are better understood in terms of syntactic reconstruction (postulating lower occurrences in syntactic representations). What does seem clear is that, as (Rouveret, 2011b: p. 50) puts it, following a very careful assessment of the available evidence, ‘the link between reconstruction and movement has to be loosened’ (see also (Salzmann, 2011: p. 150–153)). This, it seems to me, is one of the important results to have emerged from the study of resumption. For a particularly important discussion of these issues, see Sichel (2014).

7.2 EXPERIMENTAL WORK

Since the late 1990’s, experimentalists and psycholinguists have been drawn to the investigation of resumption, and a rich body of experimental work now exists which has added enormously both to the range of observation we have to work with and to the theoretical interpretation of those observations. In some ways, these studies have refined the kinds of understandings that have emerged from descriptive and theoretical work; in other ways they have turned conventional wisdom on its head. The flow of such studies is increasing steadily and it seems clear that in coming years such methodologies will play a decisive role in driving and in enriching theoretical understanding.

The studies currently available for review are of two major types:

- (i) a large number of studies of the acceptability of resumptive elements, on a scale and at a level of accuracy which are hard to achieve by way of introspection alone or through one-on-one work with consultants: Dickey (1996), McDaniel et al. (1997), McDaniel & Cowart (1999), Alexopoulou & Keller (2007), Heestand et al. (2011), Keffala (2011), Harizanov (2011), Keffala & Goodall (2011), Han et al. (2012), Polinsky et al. (2013), Ackerman et al. (2014).
- (ii) a much smaller number of production and comprehension studies: Ferreira & Swets (2005), Morgan & Wagers (2013).

¹⁶It is relevant in considering this choice that Rouveret (2002, 2008) has shown for Welsh and Malkawi (2009) has shown for Jordanian Arabic that in those languages one finds reconstruction for variable binding, but not for Condition C. On syntactic accounts, such effects should coincide rather than come apart.

Before considering what should be taken from these studies, a very important preliminary is in order. One of the major themes running through the descriptive and theoretical literature is that a distinction must be drawn between languages in which the device of resumption is fully integrated into the grammar (Irish, Welsh, Bulgarian, Hebrew, varieties of modern Arabic, for instance) and languages in which it is not (English, German, Greek). These last are the languages for which Chao & Sells (1983) and Sells (1984b) coined the term ‘intrusive resumption’. Experimental work has to date focused only on languages with intrusive resumption and, with just one exception that I know of (Harizanov (2011)), has not dealt at all with ‘true resumption’. The results described below, then, have been established only for ‘intrusive’ resumption.

That said, a remarkably consistent overall picture has emerged, and one which is rich in its implications. Without exception, the acceptability studies have revealed that speakers do not in fact judge examples containing resumptive pronouns to be well-formed—despite the fact that they are used quite commonly in unguarded speech, as shown by the English corpus studies already alluded to (Prince (1990, 1997), Cann et al. (2005)) and by production studies (Ferreira & Swets (2005), Morgan & Wagers (2013)). Alexopoulou & Keller (2007), for instance, sum up their principal finding in the following terms (p. 150): ‘we found that a resumptive pronoun is at most as acceptable as a gap in the same construction, but never more acceptable.’ Subsequent studies have systematically replicated this result, with some refinements and clarifications. Polinsky et al. (2013), for instance, summarize their findings in very similar terms (p. 342): ‘although there are abundant production examples in the literature where speakers produce RPs within a syntactic island, in three comprehension studies we found no evidence that RPs make island violations more acceptable to listeners.’ Follow-up studies suggest one important refinement: Ackerman et al. (2014) suggest that a difference in acceptability is detectable, but only when fully grammatical examples are excluded from the comparison set and subjects are thus forced to choose between unacceptable islands with gaps and unacceptable islands with pronouns. In this narrower circumstance, they find, a detectable preference for resumptive pronouns over gaps inside islands emerges.

There is an important link between these results and those of McDaniel & Cowart (1999) and Keffala (2011), both of whom report that resumptives DO ameliorate island-violations in English in exactly one circumstance, that in (43):

- (43) a. This is a donkey that I don’t know where it lives.
 b. *This is a donkey that I don’t know where _ lives.

In (43b), we have, in classical terms, both a subjacency violation and an ECP violation and it is in exactly this circumstance that Swedish, Vata and Gbadi mandate use of a resumptive (see section 6.1 above). It is also in this circumstance that English-speaking subjects judge the resumptive to be significantly more acceptable than the gap in the studies of McDaniel & Cowart (1999) and Keffala (2011). What all of this suggests is that the judgment of acceptability or unacceptability involves a fine-grained calculus which assigns different weights to subjacency violations, ECP violations, and violations of whatever principle it is that bans resumption in most kinds of English. All of this is very

much in harmony with much theoretical work of the 1980's and 1990's.

It also suggests an understanding of the term 'intrusive resumption'—a term that, even on the phenomenological level, has been profoundly unclear. Intrusive resumption languages, we can now say, are languages whose grammars render resumptive structures ill-formed to one degree or another. But this leaves open the possibility that speakers of such languages will deploy such flawed structures when available alternatives (with gaps rather than pronouns) are no less flawed.

Things become more interesting still when we integrate this perspective with the results that emerge from two production studies—Ferreira & Swets (2005) and Morgan & Wagers (2013). One of the persistent intuitions that emerges from discussions of resumption in the descriptive and theoretical literature is that, in languages like English, resumptive pronouns are devices of last resort (in a sense distinct from the theoretical notion of last resort found, say, in Shlonsky (1992)). The idea is that speakers reach for this ancillary and extra-grammatical way of completing \bar{a} -dependencies only when under time-pressure or under the pressure of a demanding processing load (such as might be entailed by an island structure). The importance of Ferreira & Swets (2005) is that it shows that this natural assumption is entirely wrong. Their study aimed to elicit utterances like (43a) by providing an experimental context in which such utterances would be produced naturally. Importantly, however, the task was conducted under two conditions. In one, subjects were under severe time-pressure to produce an appropriate utterance; in the other they were given as much time as they felt they needed and they were encouraged to make sure that their utterances were 'good'. Strikingly, subjects produced significantly FEWER resumption structures when under time pressure than they did when they had as much time to plan their utterances as they felt like taking. Alternatives, avoiding the pattern in (43a), were produced much more frequently under time pressure than when time pressure was absent. The authors' conclusion is worth quoting: 'We conclude that the island+resumptive structure is not a mistake; it is a structure which the production system intends to produce. Moreover, its generation clearly requires significant processing resources. Under time pressure, the grammatical encoder opts not to create this form, perhaps because it is a hard structure.'

This result is very much in harmony with those reported in Morgan & Wagers (2013). This study reports two linked experiments—one an acceptability study designed to rank various island structures with gaps in terms of degrees of (un)acceptability, the other a production study designed to elicit either island-violating gap structures (like (43b)) or structures in which resumptive pronouns appear within the islands (like (43a)). Their core finding is that the best predictor of the frequency of resumptive pronoun production is the relative (un)acceptability of the corresponding gap structure. That is, subjects were likely to produce resumptive structures to a degree that correlated closely with the degree of unacceptability assigned to the corresponding example with a gap.

All of this seems to suggest that in planning their utterances in real time, speakers make use of grammatical knowledge about islands, about the relevant severity of different island violations, and about the ungrammaticality of resumption in the language; they are furthermore willing to deploy structures deemed ill-formed (to some degree) by their internal grammars, if such structures count as the least offensive way of expressing their communicative intent in syntactic form.

At the time of writing (late 2014) it remains unclear what will emerge when these methods are extended to languages in which resumption is thought to be fully integrated into the grammatical

system—languages with ‘true’ resumption. The one acceptability study that we do have for such a language, however, (Harizanov (2011)) suggests that the results will not be very different from those which have been reported for English, German, and Greek.¹⁷ No matter what results emerge from studies currently in the planning stages, we will find ourselves in a very interesting place theoretically.

8 CONCLUSION

It is hard to predict how of all of this settle, but the area is ripe for further work, and there is a rich base of observation, analysis, and speculation upon which to build. The theoretical implications are also large—surprisingly so, given how marginal the phenomenon seemed to be when the work began some fifty years ago.

OTHER RELEVANT CASES

See also:

- Rose-Marie Déchaine and Martina Wiltschko: ‘Bound Variable Pronouns’
- Elena Anagnostopoulou: ‘Clitic Doubling’
- David Pesetsky: ‘Complementizer-Trace Effects’
- Howard Lasnik and Kenshi Funakoshi: ‘Condition C Violations and Strong Crossover’
- Luigi Rizzi: ‘Left Periphery of the Clause’
- Jon Nissenbaum: ‘Parasitic Gaps’
- Dominique Sportiche: ‘Reconstruction, Binding, and Scope’
- Terje Lohndal and Anna Szabolcsi: ‘Strong vs. Weak Islands’
- Cecilia Poletto and Jean-Yves Pollock: ‘Subject Clitics and Complex Inversion’
- Ken Safir: ‘Weak Crossover’

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¹⁷As Harizanov (2011) is careful to note, however, there is a potential confound. The materials in the study were presented to subjects in written form. But resumption (and the associated complementizer *deto*) is almost entirely absent from written Bulgarian. It could be, then, that prescriptive pressures and perceptions influenced outcomes.

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