William B. McGregor

Optionality in grammar and language use

Abstract: This paper investigates optionality in grammar and language use, and argues that there is optionality and optionality, and thus that it is essential that we be much more careful than hitherto in categorizing linguistic entities as optional. Equipped with a suitably constrained construal of the term, it is possible to formulate testable generalizations about optionality. Specifically, it is always meaningful in the sense that the contrast between use and non-use of a given linguistic element conveys meaning; use and non-use are never in absolutely free variation. Furthermore, there are restrictions on the type of meaning associated with the two contrasting paradigmatic "forms". It is always a type of interpersonal meaning, concerning the domain of joint attention. It is further suggested that the connection between form and meaning is motivated, and thus this represents another domain in which the linguistic sign emerges as non-arbitrary. Evidence for the proposed meaning is presented from case studies of five diverse domains of grammar: complementizers, case markers, definiteness markers, person and number markers, and NP ellipsis. While these case studies only scratch the surface of the range of optional phenomena in the world's languages, they provide sufficient circumstantial evidence to make an initial case for the proposals; they also raise numerous questions for future investigation.

Keywords: optionality, usage based grammar, joint attention, motivation, complementizers, case markers, definiteness markers, person-number markers, ellipsis

William B. McGregor: Linguistics, Department of Aesthetics and Communication, Aarhus University, Jens Chr. Skous Vej 2, Office 1485-617, DK-8000 Århus C, Denmark. E-mail: linwmg@hum.au.dk

1 Introduction

1.1 Aims

This paper argues that generalizations can be made concerning the phenomenon of optionality in grammar. Provided that it is defined in a suitably restricted manner, optionality is constrained in important ways; this paper attempts to both delimit the phenomenon and identify the constraints on it. Specifically, it is

proposed that optionality is available in languages as a means of conveying meaning, and that there are limitations on the type of meaning that can be associated with the contrasting paradigmatic "forms", presence vs. absence of a particular linguistic element. This meaning relates to joint attention, a domain often associated with indexical relations such as pointing and eye-gaze (e.g., Tomasello and Farrar 1986; Tomasello 2003). Optionality represents an additional and unexpected means of expressing meanings from this central domain of language structure and function. Thus two grammatically very different phenomena (from two distinct semiotic types in the scheme of grammatical relations proposed in McGregor 1997) convey meanings of a similar type.

What this paper proposes are some specific meanings for use and non-use of a given linguistic item. Very approximately (this is made more precise in Section 2.1), the claim is that use of the item is associated with making it – or something nearby – prominent, drawing attention to that item, while non-use is associated with demoting it, and relegating it to the background. On the one hand, this is a strong universal claim since it links a number of quite disparate morphosyntactic domains in which optionality is attested, including complementizers, case marking, number marking, definiteness marking, and NP ellipsis; it suggests that there is a single general "motivation" underlying all of the cases. On the other hand, as will become clear as the exposition unfolds, my proposals represent refinements to common-sense expectations of linguists, albeit expectations that usually remain implicit and presumed rather than subjected to careful scrutiny.

A number of other interesting questions arise in relation to grammatical optionality, attesting to its significance as a linguistic phenomenon. Among these the following two clusters are particularly noteworthy: (a) Where is optionality available in a given language? Under what conditions, in what lexical and/or grammatical environments is it available? Can hierarchies be devised to link grammatical contexts to optionality (as per e.g., Aissen 1999, 2003; Kittilä 2005; McGregor 2010: 1616–1617)? (b) How does optionality relate to similar phenomena, such as contrastive marking (where there is a choice between two morphemes in a given grammatical context – see Section 4.2 below), and other types of systemic asymmetry? And what is the relation between optionality and markedness, zero, and nothing? Considerations of space preclude dealing in detail with these questions, though some observations relevant to (b) are developed; issues concerning (a) are mentioned only in passing, where relevant.

1.2 Organization of the paper

The paper is organized as follows. I begin in Section 2 by discussing the notion of optionality and proposing a definition that delimits a tractable domain of gram-

matical phenomena; following this I outline a theory of optionality in this constrained sense according to which attentional type meanings are associated with usage vs. non-usage of grammatical items. Thus there is a genuine relatively unexplored phenomenon lurking in the grammars of human languages that needs to be incorporated into – and accounted for by – linguistic theory. Following this comes the main section of the paper, Section 3, in which five case studies of optional items, mainly grammatical, are discussed; these demonstrate that the theory has something useful and testable to say. Section 4 then looks briefly at optionality in the wider context of related phenomena, including linguistic zeros and indexical relations. The paper winds up in Section 5 with a summary and concluding remarks that indicate directions for future investigation into optionality.

Before beginning, an important caveat is in order. The term *optionality* is used in a variety of ways in the literature, some quite inconsistent, and it is not always clear in what sense of the term a particular item is optional (see also Section 2.1). Worse, grammatical descriptions and other sources rarely provide detailed discussion of the phenomenon or back up claims by arguments based on careful studies of actual usage (see also McGregor 2010). Too often off-the-cuff accounts and explanations are provided (without justification) that repeat again and again apparently plausible notions, such as that the optional item is used only when there is a chance of ambiguity. The preliminary nature of the proposals of this paper must therefore be borne in mind. Moreover, what I attempt to do in Section 3 is to show that the theory outlined in Section 2 throws light on the particular instances of optionality selected for discussion. I am fully aware that the proposals are not proven by the discussion. Indeed, to be convincing, each of the cases would require at minimum full article-length studies in each language.

2 Preliminaries

2.1 What is optionality?

According to Crystal (2003 [1980]: 329), an optional element is one "that can be removed from a STRUCTURE without that structure becoming UNGRAMMATICAL. In the sentence *I saw the pen on the desk*, *on the desk* is an optional ADVERBIAL." [Crystal's emphasis]. Matthews (2007: 279) is basically in agreement, though the requirement that grammaticality be preserved is not specifically mentioned. This sense of the term is frequently invoked in linguistics. For instance, in item-arrangement morphology, structures frequently show optional elements of this

type. The verb in Gooniyandi (Bunuban, Australia) can be described in item-arrangement terms as shown in (1) (McGregor 1990: 192). This mode of description is not just conceptually clear, but has the advantage that it permits us to avoid numerous unmotivated zeros, which would be necessitated if optional structural elements were not permitted in the item-arrangement formula. If, for instance, the order-class Aspect was obligatory, we would have to have a choice between Progressive and ø (Non-Progressive?); yet there is no independent evidence for such a zero morpheme.[1]

(1) Root-(Aspect)-(Mood)-CC-(Mood) = (Oblique pronominal) = (Number)

Despite the descriptive advantage of item-arrangement formulae such as this, it is difficult to appreciate that the Aspect element in the Gooniyandi verb is in any real sense optional: when it is present the verb shows a rather different structure and meaning than when it is absent. Worse, in some circumstances speakers have no choice as to whether or not to use elements that are specified as optional in (1). For instance, in certain clausal constructions (namely middle clauses) a Gooniyandi speaker cannot but use an oblique pronominal clitic to the verb (McGregor 1990: 317–319) – although elsewhere they do have the choice (ordinary intransitive and transitive clauses).

An alternative construal, which has been suggested independently to me by various linguists I have spoken with, is to restrict genuine optionality to those

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1 Examples are laid out according to the Leipzig glossing rules (http://www.eva.mpg.de/lingua/resources/glossing-rules.php), using the recommended abbreviations plus a few additional ones. For the reader's convenience the following is a full list of the abbreviations employed in this paper: ABS – absolutive; ACC – accusative; ASS – associative; CC – classifier complex (a complex of morphemes including a classifier); CF – contrastive focus; CMP – completive; DAT – dative; DEF – definite; DIM – diminutive; DST – distal; du – dual; DUB – dubitative; ERG – ergative; EXC – exclusive; FACT – factive mood ('it is a fact that'); FEM – feminine; fERG – focal ergative; GEN – genitive; HAB – habilitative; HES – hesitation; INC – inclusive; IO – indirect object; IRR – irrealis; MAS – masculine; NOM – nominative; NONI – non-instantiative (a modal category); NP – nominal phrase; NPN – non-possessed noun; OBL – oblique; PA – past; pl – plural; PART – partitive; PDEM – proximal demonstrative; PFV – perfective; PIS – past imperfective singular; PL – plural; POS – possessive; PRH – Probabilistic Reduction Hypothesis; PRS – present singular; PRST – present stative; RDP – reduplication; REP – repeated ('again'); RLS – realis; RPT – reportative; sg – singular; SS – same-subject subordinator; SUB – subordinator; and TCS – theme-class suffix. The first three numerals indicate the three person categories; and / indicates the end of an intonation unit. Morpheme boundaries are normally indicated by a hyphen; some particularly tight ones that have a significant effect on the ultimate overt shape of the morphemes are however indicated by +; = indicates a clitic boundary. Verbal classifying elements are represented in the gloss line in capital letters indicating their underlying forms.

circumstances in which the presence and absence of the item in question are in free variation. Thus there would be a requirement of identity in meaning; preservation of grammaticality is implied. According to this understanding, the optional elements of item-arrangement morphology would not be optional.

The difficulty with this proposal is that one wonders whether anything could count as a genuine instance of optionality. As a working principle many linguists (myself included) take the position that exact synonymy (in the sense of identity of both coded and non-coded meanings) is rare if not non-existent in human language (see e.g., Haiman 1980). There will always be some difference in meaning, if not in the representational meaning, then in another component of meaning, such as the "social" meaning. Thus presence or absence of *that* in *I believe (that) the pen is on the desk* does not have any effect on the representational meaning, though it might be suggested that there is a difference in formality, and thus social meaning. (I do not believe this to be really the case, but it will do as a first approximation; see further Section 3.1 below.)

These two conceptualizations represent two extreme construals of the notion of optionality. It is unlikely we will be able to say much of interest about optionality in the first sense: the phenomenon would emerge as too wide and diffuse, embracing an enormous range of distinct phenomena including optional locatives in Crystal's definition, the optionality of *that* in complement constructions in English, as in *I believe (that) the pen is on the desk*, as well as optional adverbials and clauses, as in *I (firmly) believe the pen is on the desk*, and *I saw the pen on the desk (and picked it up)*. By contrast, the second construal will only be possible if we adopt a weak conceptualization of meaning identity, or one that restricts meaning identity in appropriate ways.

To delimit a tractable set of phenomena about which we can say something sensible and non-trivial, and which behave in coherent ways, we require a conception of optionality somewhere in between these two poles. One possibility would be to introduce a requirement that the speaker has to have a choice: for an element to be optional a speaker must be in the position either to use it or not to use it. This eliminates from the category of optional elements the oblique pronominals in the Gooniyandi verb, at least in the context of middle clauses; it does not, however, eliminate adverbials in Crystal's example, or Aspect morphemes in the Gooniyandi verb. A speaker producing an English clause or a Gooniyandi verb has the choice of including or not including one of these elements.

One way of excluding these undesirables is by introducing more stringent linguistic requirements concerning the loci and effects of the choice. Specifically, we could require that the choice to use or not to use the item will not change the linguistic structure. This is in any case desirable in order to preclude full clauses such as *and picked it up* from optional status in *I saw the pen on the desk and*

picked it up. We want to exclude those cases, that is, in which by virtue of the choice that the speaker makes, a different grammatical construction results.

Given this additional restriction, we can now propose a purely linguistic characterization of optional elements that does not allude to imputed and unknown cognitive activities of speakers. This is provided in (2), where constructions are understood as grammatical signs, form-meaning pairs such that the association is inherent and conventionalized and not entirely predictable (as per the Saussurean conception of the sign; see also Goldberg (1995: 4). Discussion of the components of the definition follows.

(2) An element is optional in a given construction iff, in a specifiable set of linguistic circumstances:
   (a) it may be present or absent; and
   (b) its presence or absence does not affect the grammatical structure: the construction remains unchanged as a linguistic sign regardless of whether or not the element is present.

The qualification *in a specifiable set of linguistic circumstances* is essential for the reason that in many cases optionality of an item is not entirely general, is not available across the board in a construction type, but instead is restricted in terms of specific values of some linguistic variable.[2] For instance, optional case marking of clausal argument roles is in some languages restricted to certain animacy values of the NPs filling the role; for NPs of other animacy values case marking may be obligatory. Thus in the Australian language Umpithamu (Pama-Nyungan) ergative marking of inanimate Agents is obligatory, but is optional on all other NP types (Verstraete 2010).

Condition (a) is effectively as per the dictionary definitions mentioned above – the item is removable. This condition also corresponds with the possibility that the speaker can make a choice (in the specifiable set of circumstances in the construction).

Condition (b) is a requirement of structure invariance, a significantly stronger requirement than preservation of grammaticality, as per Crystal (2003 [1980]: 329). Requirement (b) excludes "adverbials" such as *on the desk* in *I saw the pen on the desk* from the class of optional items. This is because the structure is

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2 I presume that it will always be possible to specify the linguistic circumstances of optionality of an item within a construction. Otherwise, optionality may be safely presumed to be general within the construction. It is difficult to make sense of a situation in which optionality is sporadically and/or randomly distributed across a construction in a language.

changed when the "adverbial" PP is omitted: the clause (or NP in another possible interpretation, where the post-verbal words form a single NP) no longer has a dependent PP specifying a spatial location, but is a bare transitive clause with just its core grammatical roles represented.

This structure preserving condition, it should be noted, is qualified by the fact that it is assumed to be restricted to structure at a particular level, the level of the given construction. Structure at another level may change. For instance, omission of a case-marking postposition in a language such as Gooniyandi (see further Section 3.2 below) does not affect the structure at the clause level, although it obviously affects structure below this level, at the phrase level, where a change from a PP to an NP is necessarily involved. Likewise omission of the complementizer *that* in complement constructions in English (see Section 3.1) does not affect the structure at the level of the sentential construction, though it does affect the shape of the complement clause.

Of course, requirement (b) is not theoretically neutral, and cannot be invoked in the absence of a linguistic theory. Specifically, it assumes a theory in which the construction is a significant grammatical unit, a presumption not shared by all theories. The particular approach adopted in this paper is a sign-based theory of grammar along the lines of McGregor (1997), which shares a number of fundamental similarities with cognitive grammar (Langacker 1987, 1991), construction grammar (Goldberg 1995), and functional discourse grammar (Hengeveld and Mackenzie 2008). Theory basis in the definition of optionality, and in the categorization of particular phenomena as optional, is unavoidable, and is present even in dictionary definitions such as Crystal's (cited at the beginning of this section), where the notions of structure and grammaticality are invoked – both of which are plainly theory dependent. Thus I do not see the theory-ladenness of (2) as a weakness. What is important is that indication be provided as to why structures are claimed to be preserved or not. In some instances, few linguists would disagree – though there may be disagreement concerning the precise nature of the structure; in others disagreement may be significant.

Requirement (b) excludes – correctly in my view – a range of phenomena that are often treated as optional. Below is a brief discussion of, and motivation for, some of the exclusions.

First, in a conversational exchange one has the choice to speak or remain silent at various points – e.g., at a transition relevance place (Sacks et al. 1974). This does not count as optionality, since it is clearly not the case that structure is unaffected: if X asks Y a question, and gets no answer, there is no exchange, no adjacency pair. The structure at this level is different from the case in which an answer or response of some sort is provided, and an exchange results. (It is the failure of Y to complete the expected jointly constructed structure that causes the

interpersonal problems, not that e.g., Y has replied with a zero – they simply have not replied.)

A second set of exclusions are modal auxiliaries like *would* in minimal pairs such as the following:

(3) *I would have seen the movie*

(4) *I have seen the movie*

(3) and (4) differ as clausal constructions, in terms of their highest-level structure as clauses. (3) involves modal *would* with scope over the remainder of the clause, whereas no such structure exists in (4). (Although couched in the terminology of McGregor [1997], this difference corresponds to structural differences at clause level identified in many other theories, formal and functional, that analyze the auxiliary and tense morphemes as clausal rather than VP "constituents".)

Third, interpolated vocatives are not optional in examples such as *Well then, Harry, what do you think?*, since such interpolations result in a different overall structure for the clause.

Fourth, many of the phenomena Riemer (2010) discusses under optionality in syntax are also excluded, including presence/absence of prepositions in pairs such as the following:

(5) *I met the dean*

(6) *I met with the dean*

(7) *I chose Mary to lead the parade*

(8) *I chose for Mary to lead the parade*

(9) *The president decided the order of precedence*

(10) *The president decided on the order of precedence*

These are excluded for the reason that the (main) clause in each pair differs in transitivity: the first example in each pair is a transitive clause, the second an intransitive clause. For the same reason, the "object" *the meat* is not optional in *Mary ate the meat*, despite the grammaticality of *Mary ate*.

Similarly, in Warlpiri clauses of perception and impact, the NP denoting the entity to which activity is directed may or may not be marked by the dative suffix, as illustrated by (11) and (12). There is a semantic difference between the contrasting patterns: examples like (11) without the dative marker imply success of the action, whereas those like (12) with the dative indicate merely that an attempt

was made, which may or may not have been successful. Furthermore, there is a formal difference between these two examples: in (11) the NP *janganpa* 'possum' is cross-referenced by the 3sgACC pronominal enclitic, whereas in (12) it is cross-referenced by the dative enclitic. This happens whenever the non-agent NP is third person singular (for other persons and numbers the regular object series is used). These two pieces of evidence, semantic and formal, constitute evidence that examples such as (11) and (12) instantiate distinct construction types, one transitive, the other of reduced transitivity value. Thus (2) is not satisfied, and examples such as these do not exemplify optional dative case marking.

(11) *janganpa-rna-ø*   *paka-rnu*   *ngajulu-rlu*
     possum-1sgNOM-3sgACC   chop-PA   I-ERG
     'I chopped out a possum.'

(12) *janganpa-ku-rna-rla*   *paka-rnu*   *ngajulu-rlu*
     possum-DAT-1sgNOM-3sgDAT   chop-PA   I-ERG
     'I chopped out a possum.'

Fifth, lexical items that may or may not be present in NPs – e.g., numerals, adjectives and adverbs (as in e.g., *the two very big dogs*, where *two*, *very*, and *very big* can all be omitted) – also fail to satisfy (2) since the structure of the NP quite obviously differs with vs. without one of these elements. For instance, *the very big dogs* is an NP without a quantifying modifier.

Sixth, in reduplication neither instance of the reduplicant counts as an optional element since reduplication represents a distinct construction from the plain unreduplicated form. In a similar way "double negation" vs. ordinary negation in English does not illustrate optionality of one of the negative elements. Thus *I went nowhere* does not demonstrate that the negative item is optional in the "double negative" *I didn't go nowhere*. The two clauses show different structures, the latter presumably with two negative elements independently scoping over the clause, the former with just one.

Most of the above cases are relatively straightforward, though it is clear that even for them theoretical considerations are not irrelevant. Moreover, it is not always easy to decide whether or not criterion (b) is satisfied: it can sometimes be difficult to determine whether two contrasting forms do or do not represent the same grammatical construction. We will raise and briefly discuss some problem cases in Section 3.6 below.

It is essential that what is optional has status as an entity, with distinguishable shape, with substance in Hjelmslevian terms. An optional zero morpheme makes no sense: zero can't contrast with nothing (Haas 1957), and it is difficult to

understand how one could in any meaningful way choose to use zero rather than nothing in a construction.[3] And if the form is purely an inflectional word-shape phenomenon, with no identifiable and repeatable formal unity, then it is also excluded from our category of optionals. Thus if *be* occurs in a particular place in a clause token where *am* is expected, it would be strange to say that e.g., first person singular present category has been optionally omitted; (2) is not satisfied.

Finally it is observed that definition (2) permits two distinct circumstances for optionality: (i) grammatical markers can be optional iff the category they mark remains unaffected regardless of its marking; and (ii) other items (e.g., lexical items, phrases) can be optional iff a structure or relation remains regardless of whether they are present or absent. In both circumstances the substance of the construction is quite obviously different depending on the presence or absence of the optional element. What is relevant to (2) is the more abstract feature of form, which generalizes over differences of substance (e.g., phonological allomorphs differ in phonological substance but not in morphophonemic form).

2.2 A theory of optionality

The theory of optionality outlined in this section associates meanings with the two options, use of the form and non-use of the form, building on the proposals of McGregor (2010) specific to optional ergative case-marking. These meanings are of a particular type; it is not the case that any type of meaning can be associated with use or non-use. In particular, it is hypothesized that meaning of the experiential (Halliday 1979, 1985; McGregor 1997) or representational (Dik 1989; Hengeveld and Mackenzie 2008) type, that is, meaning concerning the world of experience of speakers of the language, will never be coded by either usage or non-usage of a form. For instance, an optional marker of case could not code by its presence (say) agency, and by its absence non-agency. At best, meanings of this type can be "conveyed" by pragmatic implicatures, not by coding.

The type of meaning coded by use vs. non-use is, it is proposed, invariably of the interpersonal type (Halliday 1979, 1985; Dik 1989; McGregor 1997; Hengeveld and Mackenzie 2008): it concerns the domain of doing things with words, with
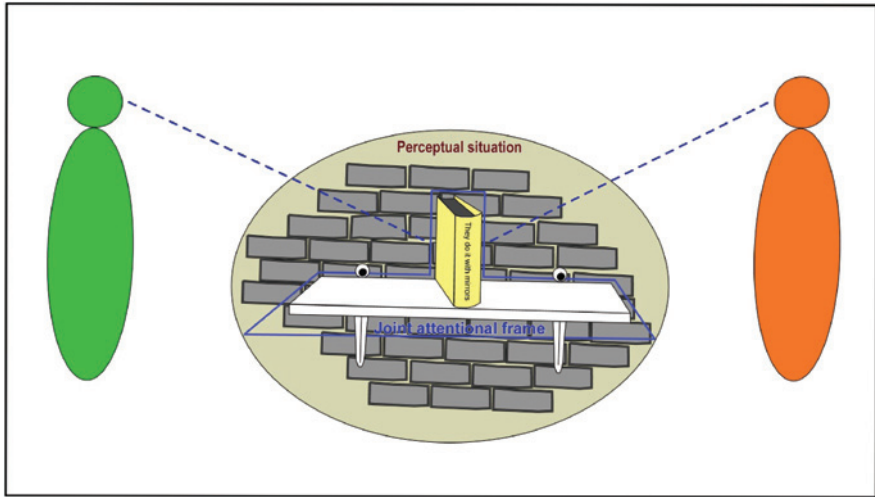
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3 For instance, a speech interactant could hardly be said to have the choice of responding with a linguistic zero, rather than not responding at all – thereby being in a position to claim that they did indeed respond, albeit with zero. Or consider a set of bound pronominals in which the third person singular is a zero morpheme. While it is possible that the non-third person singular pronominals are optional, it makes no sense to claim that this also holds for the third person singular forms: there is no way one could distinguish use of this pronominal from its non-use.

how language is used to achieve speaker's goals and purposes, and the construal of relations amongst speech interactants. Specifically, what is involved is interpersonal meaning concerning the dimension of joint attention (Tomasello and Farrar 1986; Tomasello 2003). The use and/or non-use of a linguistic unit concerns how some item of information is integrated into the joint-attentional frame: whether or not it is accorded particular attention within the frame, or whether or not it is presumed to be in the frame of joint attention. The proposal is that meanings are associated with the two options as shown in (13).

(13) use   [±prominent]
      non-use   [±backgrounded]

(13) identifies two features, both of which can take positive and negative values. Let us begin with the positive or marked values of each feature. In this circumstance usage serves to make something prominent; it zeros in on some component of the meaning expressed, drawing particular attention to it, thus placing it at the center of attention – putting it in center stage. This process is comparable with highlighting the particular meaning component, bringing it out into relief against the other material in the joint attentional frame. Non-usage, by contrast backgrounds a component of meaning, takes it outside of the domain of what is being (or will be) concentrated on; the meaning is shifted outside of the domain of the joint-attentional frame. The meaning component thus becomes a part of what is presumed by the speech interactants, and so requires no particular notice be taken of it. The process of backgrounding is akin to greying a meaning component, defocusing it, putting it into fine print. Effectively, it is information that can be ignored without affecting the message communicated. Fig. 1 provides diagrammatic representation of the two situations. Highlighting the book puts it at the center of attention; the wall is greyed out, shifted outside of the joint-attentional frame, although it remains within the perceptual situation. The wall provides support for the shelf, though this is something that can be presumed by the interactants.

The negative (unmarked) values amount to the same thing, namely do nothing, leave as is: neither promote nor demote the relevant meaning component in prominence. The joint-attentional frame remains unchanged. Thus whereas + values of the features are associated with positive coded meanings, – values have no coded meaning. This does not mean that the corresponding choices will be completely meaningless, only that they have no coded semantic meaning. They may well, as will be seen as the exposition of Section 3 unfolds, have meanings that are derived by pragmatic implicatures.

Fig. 1: Highlighting and greying in the joint-attentional frame

Three levels of grounding are presumed in this model: prominent (fore-grounded), normal (ground), and backgrounded. The meanings 'prominent' and 'background' are not antonymic. Backgrounding something involves more than making it non-prominent: it also puts the thing outside of the domain of attention, although it is still so to say available for attention to be readily turned to it. Making something prominent is more than not backgrounding it; it is also brought into relief with respect to the ground. Both features are required, and cannot be replaced by a single two-valued feature. Indeed, as will be seen as the exposition unfolds, neither use nor not-use is invariably associated with the positive value of the corresponding feature. We need both features to distinguish systematically between use and non-use.

The features [prominent] and [backgrounded] are akin to other terms employed in the literature. The positive value of the first, [+prominent], corresponds to the notions of figure in the figure-ground dyad (e.g., Talmy 1978; Townsend and Bever 1977; Reid 1980), foregrounding (Hopper 1979), and trajector in the trajector-landmark dyad (Langacker 1987). I have eschewed these more familiar terms because they are not suggestive of the interpersonal dimension of joint attention and the semiotic activity of assigning something to the foreground, and focusing attention on it. Furthermore, figure-ground and trajectory-landmark are equipollent relations, the second elements of which imply too much meaningful, semiotic activity on the part of the speaker: grounding something or making it a landmark is much more than doing nothing to it, leaving it as is in the joint at-

Table 1: Range of possible feature values associated with use and non-use

	1	2	3	4
use	coded meaning +prominent	coded meaning +prominent	no coded meaning −prominent	no coded meaning −prominent
non-use	coded meaning +backgrounded	no coded meaning −backgrounded	coded meaning +backgrounded	coded no meaning −backgrounded

tentional frame. Prominence is also reminiscent of the notion of focus. The latter term, however, is used in many very different ways in linguistic theorizing, and it seems better to avoid confusion by eschewing its usage here in yet another sense. As we have already seen, [+backgrounded] cannot be identified with the notion of ground or landmark. Nor can it be identified with the notions of topic or theme, which are indicative of something forming a part of the joint attentional frame.

Given the two two-valued features [prominent] and [backgrounded], there are four possibilities for the contrast between using and not using a linguistic element, as shown in Table 1. Each of these possibilities is attested; see Section 3 below and McGregor (2010) for examples of each.

A non-linguistic illustration may be helpful at this point. A police car has a set of flashing blue lights and a siren that may be turned on or left off (the normal or unmarked state). These are optional in the sense outlined in Section 2.1. When turned on, they draw attention to the vehicle, warning others on the road that this vehicle is not necessarily bound by all of the rules of the road, and that caution needs to be exercised; there is a directive that other vehicles should move out of the way. This meaning is evidently interpersonal and directive in nature. The experiential meaning 'engaged in police business' is highlighted, and other drivers are expected to adjust their driving behavior accordingly. By contrast, the non-use of flashing lights and siren conveys no information – it expresses no directive information: no particular attention is drawn to the vehicle (beyond what is drawn to it by having the fixed markings of a police vehicle), and other drivers do not have to modify their road-behavior by moving out of the way (nor should they ignore the vehicle!). The vehicle may or may not be engaged in police business. We may conclude that the system of flashing lights and siren is of type 2: their use tells other drivers something; their non-use tells them nothing.

The proposed form-meaning association is motivated and as expected. The alternative scenario, in which non-use conveyed prominence, and use indicated backgrounding would be counterintuitive. It would be comparable to finding a society in which police sirens were turned on in order to make the vehicle

inconspicuous, and switched off to draw attention to them! The existence of such as system would count as evidence against my proposals, as would the existence of systems in which usage vs. non-usage was inherently associated with a meaning other than an interpersonal one relating to joint attention.

To conclude this section, I make two observations. First, it is frequently presumed in the literature (e.g., Bolinger 1972; Dixon 1979, 1994; Yaguchi 2001; Jaeger 2006, 2010) that use and non-use are polar opposites. That is, they will always be in a simple paradigmatic contrast with one another, such that they express antonymic meanings, or are motivated by contrasting factors. As has already been mentioned in the above discussion of (13) and Table 1 that this is not the case. Further to that discussion, it may be observed that both, one, or neither of usage and non-usage may express positive meaning. If both do, then it would appear that they are in an equipollent opposition with one another, not a privative one; they are not antonyms (and nor are they motivated by contrasting factors). Otherwise, one or both of the choices (use, don't use) will be unmarked, and will convey no semantic meaning (or be motivated by any factor: that is, it will be consistent with any situational factor).

Following from this is a second observation, a methodological one. As a consequence of the different types of paradigmatic opposition that use vs. non-use may enter into, differences are expected to emerge in terms of relative frequencies, as expected given markedness theory and pragmatic heuristics (such as the M- and I-principles of Levinson 2000); see also Biber and Conrad (2001). If both use and non-use code a meaning, and are in equipollent opposition with one another, it is to be expected that their token frequencies will be approximately the same. If only one codes a meaning, then we expect to find that there will be a marked difference in token frequency associated with use and non-use, the marked meaning being associated with the less frequent choice. For the fourth case, neither conveying semantic meaning, it is again expected that token frequencies of use and non-use would be about equal. Given these associations, we can turn things around to give us a methodological strategy for making an initial hypothesis concerning the meanings of usage vs. non-usage. If there is a marked token-frequency differential, it is reasonable to expect one of the pair to express a positive semantic meaning, the other to be unmarked – and consequently to expect that one will occur in a narrower range of circumstances than the other. If there is no marked differential in token frequency, we expect either that both are semantically meaningful or neither is. These frequency correlations are, it should be stressed, at best indicative; one needs to explore the actual situation carefully to ensure that the expectations are indeed fulfilled, and of course to distinguish between the two situations both semantically meaningful and neither semantically meaningful.

3 Examples of optionality in grammatical systems

In this section five case-studies of optionality in grammar are discussed, and shown to be consistent with the theory outlined in Section 2.2. These are, in order: the *that* complementizer in English; ergative case-markers; NP ellipsis in Gooni-yandi; definite marking in Tirax (Austronesian, North Central Vanuatu); and person and number markers in Cupeño (Uto-Aztecan, California). Following these case studies we make some further general remarks about other potential optional systems for which information is less complete.

3.1 Optional *that* complementizer in English

In English, the complementizer *that* may, under certain conditions, be either present or absent, as illustrated by the three pairs (14)–(15), (16)–(17), and (18)–(19). This phenomenon has been quite extensively studied, and from a variety of theoretical perspectives employing a range of methodologies. The approaches include, to cite a small selection: descriptive (Biber et al. 1999; Huddleston and Pullum 2002), semantic and/or pragmatic (Bolinger 1972; Yaguchi 2001; Dor 2005), discourse analytic (Biber et al 1998; Biber and Conrad 2001), speech production and Zipfian stochastic (Ferreira 2003; Jaeger 2006, 2010; Levy and Jaeger 2007), and grammaticalization and/or historical (Bolinger 1972; Thompson and Mulac 1991; Rissanen 1991; Tagliamonte and Smith 2005; Torres Cacoullos and Walker 2009). It is beyond the scope of the present discussion to attempt a thorough overview of the literature or to provide a comprehensive treatment of the topic. This would require a separate article, even book. Instead, I content myself with a broad-brush treatment that presents circumstantial evidence from the published literature supporting my suggestions, as well as more direct evidence from examination of a small selection of examples.

(14) *He says that the sun will not rise tomorrow*

(15) *He says the sun will not rise tomorrow*

(16) *I don't believe that you have any idea who I am*

(17) *I don't believe you have any idea who I am*

(18) *It is certain that he will come early*

(19) *It is certain he will come early*

To begin with, in examples such as these the *that* complementizer satisfies the criteria for an optional item, (2). First, there is a set of lexico-grammatical environments in which the complementizer may be present or omitted. This

includes most finite object complement constructions in English with overt subjects, especially those with frequent matrix verbs of speech and thought; object complements of some less frequent matrix verbs (e.g., a number of manner of speaking verbs like *murmur*, *whisper*, *yap*) are excluded.[4] Here I do not attempt to specify precisely the conditions under which *that* may be used or not used, there being no reason to suppose that it is not well defined, even if it is perhaps not identical in all varieties of English; see Huddleston and Pullum (2002: 952–953); Dor (2005); Jaeger (2006: 200–203) for restrictions. Second, whether or not *that* is present does not affect the grammatical structure of the sentence: it evidently remains a complement construction coding the same semantic meaning, and with matrix and complement clauses in the same grammatical relation to one another.[5]

Most investigations of the optional complementizer *that* focus on statistical patterns in the distribution of its use vs. non-use, and their correlations with lexical, phonological, grammatical, discourse, sociolinguistic, information distribution, and meaning factors. Table 2 lists and provides brief discussion of the main factors that have been suggested to correlate with the presence vs. absence of *that* in English complement constructions; it is by no means comprehensive, and is intended merely to identify the major parameters. It should also be noted that these factors are not independent, and differ in degree of generality.

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4 The discussion of this section is restricted to finite object complements with overt subjects that permit an optional *that* complementizer. Note that I use the designation "object complement" in accordance with tradition; I have argued elsewhere that they are not really objects (McGregor 2008).
5 Most sources agree on this point, though it is presumed rather than argued. Hudson (1995); Yaguchi (2001); Dor (2005) are among the few dissenters. Hudson (1995) argues that there is a difference in the nature of what follows the complementizer. Yaguchi (2001); Dor (2005) both argue (though on different grounds) that there is a semantic distinction between complement constructions with and without *that*; this makes the two expressions different signs, and thus constructionally different. As I understand their arguments they concern not the complement construction itself but the complementizer *that*, and meaning of this item, not the meaning of its presence vs. absence. Moreover, in the case of Yaguchi (2001) the meanings identified appear not to be coded, but at best probabilistically associated with *that*. Thompson and Mulac (1991) suggest that a constructional difference is in the process of grammaticalizing in English, although it is still in the process of coming into being. To date there is no more than a strong statistical correlation between the two emergent constructions – a biclausal complement construction and a monoclausal epistemic construction – and (respectively) the presence vs. absence of *that*. Torres Cacoullos and Walker (2009: 31–33) concur. To the extent that two constructions are discernible, each of which show optional *that*, separate questions arise concerning the motivation for its presence vs. absence. Torres Cacoullos and Walker (2009) observe that the statistical patterns in distribution characteristic of the biclausal complement construction persist in the monoclausal construction (see also Jaeger 2006: 82), suggesting that the motivating factors may turn out to be parallel for both constructions. The big difficulty lies in distinguishing the two putative constructions, for which only statistical correlates appear to be available.

Table 2: Factors correlating with frequency of optional *that*

Factor type	Discussion
Phonological	
Avoidance of identical adjacent elements	The complementizer *that* tends to be omitted when the initial word of the complement is another instance of *that* (Walter and Jaeger 2008; Jaeger in press). *That* is more frequent when the following syllable is stressed, less frequent when it is unstressed.
Lexical	
Matrix verb	Many studies (e.g., Bolinger 1972: 18–23; Thompson and Mulac 1991: 244–245; Huddleston and Pullum 2002: 953; Torres Cacoullos and Walker 2009: 20; Jaeger 2006: 88–89) have shown that non-use of *that* is highly likely when the matrix verb is a frequent or basic verb of speech or thought (e.g., *say*, *think*, *guess*), and that use is more likely when the matrix verb is less basic and frequent (e.g., *maintain*, *suppose*, *understand*), and/or codes manner information (e.g., *pray*, *admit*).
Grammatical	
Complement subject	The complementizer is more likely to be present when the subject of the complement clause is complex – e.g., a full lexical NP rather than a pronoun (Roland et al. 2006; Thompson and Mulac 1991: 248; cf. Torres Cacoullos and Walker 2009: 28).
Matrix subject	First and second person singular pronoun subjects are strongly associated with non-use of *that* (Thompson and Mulac 1991: 242; Tagliamonte and Smith 2005: 301; cf. Torres Cacoullos and Walker 2009: 26, 28).
Matrix and complement subjects	Some studies suggest that *that* is less likely when the subjects of the matrix and complement clauses are coreferential, more likely when they are not. Biber and Conrad (2001: 180) suggest that coreferentiality of subjects favors the omission of *that*, though non-coreferentiality does not favor its presence; see also Ferreira and Dell (2000); Jaeger (2010: 40). This has not been supported by all studies: according to Torres Cacoullos and Walker (2009: 24–25) this factor fails to reach statistical significance, and is due to the effects of the pronoun *I*.
Matrix verb phrase	Thompson and Mulac (1991: 246) suggest that presence of modal auxiliaries or the negative in the matrix verb phrase favors use of *that*.
Interclausal material	Adverbs and other material between matrix and complement clauses tends to be associated with presence of *that*, absence of intervening material tends to be associated with no complementizer (e.g., Bolinger 1972: 38; Quirk et al. 1972: 735; Finegan and Biber 1985: 253–254; Thompson and Mulac 1991: 247; Torres Cacoullos and Walker 2009: 27).
Priming	Ferreira (2003); Jaeger and Snider (2007); Jaeger (2010: 45) argue for syntactic persistence: *that* tends to be used/not used according to whether it is used/not used in the most recent complement token.

Table 2 (cont.)

Factor type	Discussion
Ambiguity	Bolinger (1972: 18–38) suggests that avoidance of ambiguity is a major factor affecting the presence of *that*: it is more likely to be present if there is a likelihood of misanalysis of the construction, and less likely to be present if there is little chance of a wrong parsing. See also Biber and Conrad (2001: 181). The viability of this explanation is challenged by Ferreira and Dell (2000); Ferreira (2008); Jaeger (2006, 2010); Roland et al. (2006).
Semantic	Strictly speaking semantic factors should be excluded since they argue for a constructional difference between the presence and absence of the complementizer *that*, as remarked in note 5. However, many authors use the term *semantic* in the weak sense of experiential (i.e., representational) meaning, rather than coded meaning, and thus do not necessarily imply constructional differences.
Semantics of *that*	Bolinger (1972: 56–71); Yaguchi (2001) propose that presence of *that* can be explained by the semantics of the complementizer, and its residual anaphoric value. This meaning primarily concerns the speaker's line on the information of the complement clause, expressing modal evaluation (epistemic (knowledge, fixed belief) and evidential (evidence-based inference)) and situating it within wider systems of knowledge (public, old or given information). Omission of *that* is associated with negative values corresponding to the positive semantic values associated with *that* (thus unproven information, groundless hearsay, inference without evidence, new information).
Propositional status	Dor (2005) argues that complement clauses with complementizer *that* denote propositions, while those without *that* denote asserted propositions.
Discourse	
Register/style	Biber et al. (1998); Biber and Conrad (2001: 179–183); Huddleston and Pullum (2002: 953) among others have shown that optional *that* is much more frequent in formal and written contexts than in informal and spoken ones. Tagliamonte and Smith (2005) and others observe very high frequencies of *that* absence in speech.
Information	
Information distribution	Correlations have been suggested between the use of *that* and information distribution (e.g., Ferreira and Firato 2002; Jaeger 2006, 2010). There is a tendency for *that* to be used when the complement clause has a high information value, and for it to be omitted when the complement clause is low in information.

Table 2 (cont.)

Factor type	Discussion
	By contrast, Bolinger (1972); Yaguchi (2001) suggest *that* is more frequent when the complement clause presents given information, more likely to be omitted when the information is new. This is considered to be a result of residual anaphoric force of the *that* complementizer.
Distance	
Conceptual distance	According to this theory the complementizer *that* marks conceptual distance between the matrix and complement clause, i.e., their independence; *that* tends not to be used when the two clauses function as a single conceptual unit (e.g., Curme 1931: 186; Bolinger 1972: 39–42; Givón 1980: 371; Langacker 1991: 447).
Separate clause status	Thompson and Mulac (1991); Torres Cacoullos and Walker (2009) suggest a variant on the distance hypothesis, linking presence/absence of *that* to structural distance between the clauses; see also Huddleston and Pullum (2002: 953); Tagliamonte and Smith (2005). Absence of *that* correlates with monoclausal status, where matrix and complement verbs have grammaticalized into an 'epistemic phrase'. The biclausal complement construction is statistically correlated with presence of *that*.
Production	
Difficulty	Ferreira and Firato (2002); Jaeger (2005, 2010: 32–33, 39–40) suggest there is a correlation between likelihood of the *that* complementizer and production difficulties, as indexed by speech rate, disfluencies, and pauses.

Three of these statistical patterns in distribution are especially pertinent to the theory outlined in Section 2.2: information distribution, conceptual distance, and production difficulty.[6] These are expected given that the optionality of the

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6 A few brief remarks on the other factors may be germane at this point. The first factor, the avoidance of identical adjacent elements, is clearly independent of the joint attention hypothesis, and presumably represents an independent constraint on expression substance. The second (lexical) and many of the third (grammatical) factors correlate with the differential degrees of grammaticalization of the construction (Thompson and Mulac 1991; Tagliamonte and Smith 2005; Jaeger 2006, 2010; Torres Cacoullos and Walker 2009). Some of the grammatical factors also appear to correlate with information distribution or conceptual distance (e.g., presence of interclausal material and subject coreferentiality with conceptual distance). The semantic factors identified by Bolinger (1972); Yaguchi (2001) partly relate to information and conceptual distance. However, the notion that the complementizer *that* retains an anaphoric component of meaning from the demonstrative *that* seems to have misled these authors to correlate the

complementizer *that* is motivated by considerations of joint attention: its use relates to the dimension of prominence, its non-use relates to backgrounding. These factors, that is, represent possible motivations for the speaker's decision to highlight or background the complement clause token.[7]

Jaeger (2006, 2010) find that the information value of the complement clause onset – where this is measured in information theoretic terms – is a better predictor of the presence or absence of the complementizer *that* than any of the other factors that were evaluated (which include those in Table 2 plus others). The higher the information value of the complement clause onset the more likely the complementizer will be produced. These correlations are as expected in the joint attention theory, given that speakers are more likely to highlight information that is unpredictable, and more likely to background information that is predictable.

The conceptual distance notion also fits well with the theory proposed in Section 2.2. Highlighting a complement clause by using the complementizer *that* will individuate it, thus underlining its distinctiveness and separation from the matrix clause and distancing the two conceptually. Backgrounding the complement clause by not using *that* has the effect that attention is not drawn to it, and it is not individuated. Thus it becomes as it were merged conceptually with the matrix clause, and little conceptual distance exists between the clauses.

Difficulty can also plausibly be linked to highlighting, the difficult item being placed at the center of the joint attentional frame. My main motivation for using the highlighting function of my word processor when writing is to mark problem places, which require more attention and which I should return to in order to formulate more adequately.[8] It is not implausible that this holds for speakers also, that a speaker might highlight a problem in production, and put it at the center of attention in view of resolving the problem. For instance, doing this might serve to solicit the addressee's assistance. If the content or form of the complement clause is problematic, it might thus be highlighted by use of the complementizer *that*.

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presence of *that* with given information. (The examples these authors discuss have better explanations in terms of joint attention; see discussion of one of Bolinger's examples below.)

7 Thus methodologically my approach is very different to that of statistical approaches. Regression methods and multivariate analysis permit assessment of multiple effects, including how much a particular effect contributes to the patterning. My purpose is not to evaluate the relative strengths of particular effects. Indeed, it is likely that there is some degree of viability to all of them, and that their different relative strengths is a consequence of differences in the likelihood of their discourse occurrence. The effects, that is, represent specific and contextually embedded motivations for speakers to highlight or background particular complements.

8 Correspondingly, readers sometimes use highlighting to single out passages which require more processing attention, and which they should return to for rethinking or to properly understand.

Table 3: Predicted semantics of optional *that* according to genre

	1	2	3	4
use	coded meaning +prominent	coded meaning +prominent	no coded meaning −prominent	no coded meaning −prominent
non-use	coded meaning +backgrounded	no coded meaning −backgrounded	coded meaning +backgrounded	no coded meaning −backgrounded
	fiction?[a]	casual conversation	academic prose and newspaper reports	fiction?

[a] It is not clear how the situation in fiction is best interpreted. The fact that there is a fairly even distribution of use and non-use suggests both are equally marked and meaningful; however we cannot predict more than that both are likely to have the same signs for their features. (See remark at end of Section 2.2.)

One other factor is relevant to the theory of Section 2.2, even though it cannot be used to account for particular tokens of use vs. non-use of the complementizer. This the discourse factor of genre, which is a particularly well-established one. There are large disparities in the frequency of *that* according to register. Thus Biber and Conrad (2001: 180) report about 15% usage of the complementizer in conversation, 40% usage in fiction, 70% in news reports, and 95% in academic writing. These distributional differences strongly suggest that there may be differences in the semantic values of use and non-use of *that* in different registers, as shown in Table 3. Granted this, we cannot expect to satisfactorily account for instances of usage or non-usage of *that* without knowledge of the register.

The above overview of statistical patterns in distribution of the optional *that* complementizer suggests that the joint attention theory outlined in Section 2.2 may be viable.[9] As a preliminary test of the ideas, I undertook a small investigation of four newspaper reports amounting to just over 1,700 words. Two were published in *The Australian* on 28 October 1986, the other two appeared on the website for this newspaper on 29 November 2012.[10] Interestingly, this small

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9 Other investigators have suggested similar notions in passing. For instance, Yaguchi 2001: 1144 likens the presence or absence of *that* to the zoom-in and zoom-out functions of a movie camera. However, these notions are employed merely as useful metaphors, and not taken to be central to the phenomenon of optionality.

10 The 1986 pieces are (a) *Gala Opening for extension to Qld Govt's DP centre* (http://www.ausnc. org.au/corpora/ace/gala-opening-for-extension-to-qld-govts-dp-centre-text) and (b) *PCs take to the congressional campaign trail* (http://www.ausnc.org.au/corpora/ace/pcs-take-to-the-congressional-campaign-trail-text). The two 2012 reports are (c) *I don't care if I'm expelled, says*

sample does not follow the statistical patterns identified by Biber and Conrad (2001: 180): only about a quarter of instances where the optional *that* complementizer could have occurred did it actually occur. Presuming this to be a consequence of the small size of the corpus, and that Biber and Conrad (2001) are correct, we need not account for the six tokens of *that* in the reports, since they represent the norm for the genre, and convey no specific meaning. What needs to be accounted for are the nineteen tokens of non-use of the complementizer, which according to Table 3 should code the meaning that the complement clause is backgrounded.[11]

In a number of instances a complement clause that is not introduced by *that* presents given or predictable information, or presents given information plus something non-essential, enhancing, or contextualizing, such as location in space or time. This is illustrated by (20), the only object complement clause in report (a), and (21), from towards the beginning of report (d). (In these and following examples relevant portions of the sentence are underlined.) In the case of (20), we have already been told that the center has much more powerful computers than it had in 1965; the only thing that is new is the numerical value. As for (21), the complement clauses merely add a few details as to where lawsuits were filed and when breaches had occurred; that these events had happened is already mentioned in the title of the report.

(20) *The director of the State Government Computer Centre, Mr. Mal Grierson, said the centre now has more than 200 times the processing capacity it had in 1965.*

(21) *Nokia last night said it had filed lawsuits in the US, Britain and Canada against RIM claiming it has breached patent agreements made in 2003.*

There is more than mere paucity of information to backgrounding. The information presented in (20) and (21) is not crucial to the development of the report,

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LNP MP Carl Judge, located at http://www.theaustralian.com.au/national-affairs/state-politics/i-dont-care-if-im-expelled-says-lnp-mp-carl-judge/story-e6frgczx-1226526456102, and (d) *Nokia sues BlackBerry maker RIM over WiFi breach*, at http://www.theaustralian.com.au/australian-it/nokia-sues-blackberry-maker-rim-over-wifi-breach/story-e6frgakx-1226526217466. (Accessed 29 November 2012.)

11 Interestingly five of the six tokens of complementizer *that* come from a single report. This is consistent with the priming effects remarked on in Table 2. There is also strong support for the priming effect of non-use of the complementizer (found to be stronger than the priming effect of the use of the complementizer): text (c) has eleven object complement clauses, none of which is introduced by *that*.

but rather serves collateral or contextualizing functions. Indeed, it is this discourse function more than the mere degree of predictability of the information that is relevant to backgrounding of a complement clause. All of the complement clauses in report (c), for instance, are without *that*; many of them, however, present new information. This is the case for (22) and (23). The main point of report (c) is that Mr. Judge was likely to be expelled from the party, and that he did not care whether or not this happened. (22) does not develop this point. And (23) sets the scene for the following couple of sentences which suggest the possibility of Mr. Judge aligning himself with a party in the process of formation. These complements are effectively asides. The other complements in this text also fit this pattern: that is, they are not central to the development of the report, and serve to contextualize the main line of the report.

(22) *Mr. Judge <u>said he would be happy to stay in the party, but knew it wouldn't happen</u>.*

(23) *He <u>said he would not follow the lead of Condamine MP Ray Hopper and defect to Katter's Australian Party – unless his electorate wanted him to</u>.*

I give one final illustration of this pattern from the same text, example (24). This comes from the same aside in the report as (23), and elaborates on information presented in the previous sentence, which says that the billionaire is in the process of setting up his own party.

(24) *The Courier-Mail <u>reports the billionaire miner wants to establish the United Party and has been in frequent contact with Mr. Judge</u>.*

Comparison of the non-usage of *that* with its usage as complementizer is revealing. As already discussed, if Biber and Conrad (2001) are correct, usage of *that* in this environment will not need to be accounted for. In terms of the present proposal, this means that it codes no meaning. Thus the complement clause will not be backgrounded; it should present information developing the main line of the report. Consider (25), from an extended quote in which the speaker is explaining the usage of a piece of software in election campaigning. The complement of *find* presents new and unpredictable information that does not enhance on previously mentioned information, and forms a part of the antecedent of a conditional construction. This information – where support comes or does not come from – is relevant to what subsequently follows in the report, both in the consequent clause, and in the following sentence.

(25) *"For example, if we <u>find that a candidate's support comes from one particular</u>*
     <u>precinct</u>, we can tell you what racial and economic groups make up that pre-
     cinct and how you can use this information strategically," Mr. Tibbits said.
     (From report (b).)

The remaining examples of use of the complementizer *that* (all in report (d))
follow this pattern, and develop the argument line of the report. (26) is telling.
Here the complement of *mean* presents contextualizing enhancement on infor-
mation already presented in the first sentence of the report. One might therefore
expect that *that* would not have been used, following the pattern of the previous
examples. However, intellectual property and royalty payments are the central
concern of the entire report, and are moreover locally prominent; the comple-
ment presents information relevant to the development of this theme.

(26) *Peter Misek, an analyst at Jefferies in New York, said Nokia's filings <u>mean</u>*
     <u>that RIM likely will end up paying royalties of $US2 to $US5 per phone</u>. (From
     (d).)

The examples in report (d) lend support to the analysis proposed in Table 2,
that presence of the complementizer does not highlight the complement clause,
and thus that it conveys no particular meaning. Rather, the complement clause
appears to be treated as neutral, and thus a part of the normal development of the
report. Significantly, in both instances in the mini-corpus of a complement that
consists of a direct quotation that is preceded by interpolated material, *that* is
used to introduce the complement clause; (27) is one of the two. Granted my argu-
ment that direct quotation serves a highlighting function (e.g., McGregor 2008),
the complementizer *that* would not be expected to be omitted, as this would serve
the contrary function of backgrounding the complement clause. If the presence of
the complementizer does not take a positive value for highlighting, then it is plau-
sible that in this environment the entire complement is highlighted as a conse-
quence of the highlighting effect of the direct quote.

(27) *In November this year, the arbitration tribunal of the Stockholm Chamber of*
     Commerce ruled against RIM, <u>saying that the company was "in breach of con-</u>
     <u>tract and is not entitled to manufacture or sell WLAN products" without first</u>
     <u>agreeing on royalties, according to Nokia.</u>

Bolinger (1972: 59–60) discusses some invented examples of usage of com-
plement clauses with and without the complementizer *that*. While I am very wary
of relying on intuitions based on imaginary scenarios, Bolinger's interpretations

do seem plausible. Let us consider one of his scenarios; I will attempt to show that joint attention provides a good explanation of his intuitions. The scenario concerns a robbery at a service station. Bolinger (1972: 60) suggests that (28) and (29) are appropriate to two different circumstances. In one, a policeman arrives at the scene of the robbery, and utters (28) to the attendant. The second scenario is that the policeman comes in and says nothing to the attendant, but starts poking around in the service station, examining it for evidence of robbery. (29) might be uttered by the policeman in response to the attendant's query as to what he was doing. My explanation is as follows. In regard to the first scenario, we do not need to account for the non-use of *that*; given the usage probabilities for casual conversation, the complementizer is not expected, and its absence conveys no meaning. The fact that a robbery has been committed is not at issue, and the ensuing discussion would be expected to develop via the policeman asking for details of what had happened. In the case of the second scenario, the fact of the robbery is highlighted because the question posed by the attendant appears not to presume as shared information the fact that a robbery has occurred. The policeman is evidently working under the assumption that the attendant should understand the purpose of his poking around as relating to the robbery. That the attendant asks the question indicates that he does not share this idea, and hence the motivation for it being highlighted in the policeman's utterance.

(28) *They tell us you've been robbed*

(29) *They told us that you had been robbed.*

One further observation lends further support to the proposed analysis of optional *that*. It seems that the complementizer is infrequent when the matrix clause is embedded (Jaeger 2006: 90). This is predicted by my approach. For even though processing is presumably more difficult for embedded complement constructions, highlighting of something within an embedded context is unlikely; it is much more likely to be considered worthy of backgrounding.

To conclude the discussion, let me draw out some features of the present approach that distinguish it from most treatments of the optional complementizer *that*. One is that my concern is with individual tokens of use or non-use; statistical patterns in usage are of interest in as far as they shed light on motivations for use or non-use in particular instances. A consequence of this difference in focus is that the present approach cannot feasibly be applied to very large corpora: even the very small corpus used above would require much more space than is available here to fully account for each instance of non-use of the complementizer.

Another characteristic of my approach is that two phenomena are treated as separate that are normally conflated: the complementizer *that*, and its usage vs. non-usage. For instance, Bolinger (1972); Yaguchi (2001) effectively reduce the story to the meaning of the complementizer *that*, which in their opinion derives from the meaning of the corresponding demonstrative. In the present approach, *that* is a complementizer; it marks the following clause as a complement. It is more than a mere boundary marker (as per Torres Cacoullos and Walker 2009: 29), or a means of reducing information density (Jaeger 2010). The item itself remains, in my view, a grammatical marker, signposting the grammatical structure. In conditions where it is optional, its usage vs. non-usage is a separate and distinct issue. I have argued that this is semantically motivated; indeed that the presence and/or absence of *that* codes meaning. Jaeger (2006: 19–21) argues against semantic accounts of optional *that*. His arguments, however, presume that semantics concerns representational meaning, and thus that there should be corresponding differences in the referent situations for complement clauses with and without *that*. These counterarguments are not applicable to my proposals.

3.2 Optional ergative case-marking

Recent research has shown that optional ergative case marking is not a marginal phenomenon in the world's languages (Gaby 2008, 2010; McGregor 1998, 2003b, 2006, 2007, 2010; Meakins and O'Shannessy 2010; Rumsey 2010; Suter 2010; Verstraete 2010): it is found in perhaps a tenth of languages with ergative case-marking. Optionality of the ergative marker appears to be distributed by and large according to the animacy hierarchy (Silverstein 1976). Typically, if ergative case marking is optional at a particular point on the hierarchy it will not be obligatory anywhere to the left of that point, or impossible at any point to the right on the hierarchy. In other words, obligatory marking will be found (if at all) to the right, impossible marking (if it exists) to the left, with optional marking in between. (There are exceptions; these need not detain us here.)

Standard proposals concerning when to use or not use ergative case markers either don't work or are insufficiently general. To the first category belongs a very frequently invoked version of the ambiguity resolution hypothesis (see Section 3.1): the marker will be omitted if confusion would not arise as to who is doing what to whom; otherwise it will be used (e.g., Dixon 1979, 1994).[12] However, evi-

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[12] There are many versions of this proposal, the majority with qualifications such as *usually used*, or *may be omitted* which immediately defeat the explanation, robbing it of real explanatory value.

dence from numerous languages reveals that things do not usually pan out in this way. Specifically, in all languages for which sufficient relevant usage data is available the ergative is found in contexts where its omission would not result in ambiguity (McGregor 1989, 1998, 2010). The proposal provides no explanation as to why the ergative marker would be used in such environments. (Admittedly, partial support for the hypothesis comes from the observation that the ergative marker seems to be rarely omitted when its absence would result in genuine ambiguity given the surrounding linguistic and non-linguistic circumstances.)

The basis of the theory outlined in Section 2.2 applied to ergative case marking is that: (a) the ergative case marker marks the grammatical role Agent (McGregor 1997) – roughly, transitive subject – in specifiable grammatical contexts; (b) omission of the ergative case marker does not affect the grammatical role of the NP, which remains Agent; and (c) a distinct meaning is coded by the use and/or non-use of the ergative marker on Agent NPs. There are two potential loci of coding according to this theory. One is the morphological locus, whereby the ergative case marker codes a grammatical relation, namely Agent. In some languages it also specifies a modal (interpersonal) type of meaning. This is the case in Warrwa (Nyulnyulan, Australia), where one of the two ergative case markers indicates focus on the Agent. The other locus is in usage: use and/or non-use of the case marker conveys a meaning.

Four types of optional ergative case marking are possible, according to the four types identified in Section 2.2, as shown in Table 4, which also lists languages exemplifying each of the four types.

The situation in Mongsen Ao is that usage of the ergative marker accords prominence to the Agent, whereas non-usage backgrounds it (Coupe 2007); both options code a positive meaning. Consistent with this is the fact that usage and non-usage are approximately equally frequent in occurrence.

In Umipthamu (Verstraete 2010) and Kâte (Suter 2010), by contrast, use of the ergative marker is quite rare, and evidently assigns prominence to the Agent;

Table 4: Types of optional ergative case marking and sample languages

	1	2	3	4
use	coded meaning +prominent	coded meaning +prominent	no coded meaning −prominent	no coded meaning −prominent
non-use	coded meaning +backgrounded	no coded meaning −backgrounded	coded meaning +backgrounded	no coded meaning −backgrounded
	Mongsen Ao	Umpithamu, Kâte	Gooniyandi, Warrwa	Samoan

non-use is the norm, and tells one nothing – it neither assigns prominence to the Agent, nor backgrounds it.

In sharp contrast with the situation for Umipthamu and Kâte, in Gooniyandi and Warrwa non-use of the ergative marker is rare, and is marked both distributionally and functionally. Non-use serves in these languages to background the Agent; use of the marker conveys no information (beyond what is conveyed by the morpheme itself). See further McGregor (1998, 2006, 2010).

Samoan is perhaps a language in which neither use nor non-use of the ergative codes a specific meaning. I am somewhat cautious of the claim because the sources do not present an entirely clear picture, and do not deal with the motivation for particular instances of use of the case-marker. According to Ochs (1982, 1988) the frequency of use of the ergative marker varies according to social factors such as age, gender, and distance, and indexes social variables. Particular instances of use or non-use appear to convey no specific meanings; it seems to be just the overall patterns of usage or non-usage that are meaningful. (The account of Duranti [1990] is not on the face of it compatible, and does not seem to be an investigation of the same phenomenon.)

Another way in which a language might manifest situation 4 is if usage and non-usage are pragmatically conditioned: that is, neither codes a specific meaning, but some meaning is inferred by Gricean maxims (or perhaps better, by Levinsonian heuristics). For instance, non-use of the ergative marker might, by application of the Q-principle (the maxim of quantity) – what is saliently not said is not so (Levinson 2000) – implicate that the fuller statement (including the ergative marker) is denied. Omission of the ergative marker might then implicate 'not an agent'. Alternatively, use of a formal marker might, by invoking the M-principle (corresponding to Grice's first and fourth maxims of manner) – roughly, "what is said in an abnormal way, isn't normal; or marked message indicates marked situation" (Levinson 2000) – implicate that the situation is non-normal or non-stereotypical, perhaps suggesting a high degree of agentivity. In practice these situations are difficult to distinguish from the situation in which the meanings or use and/or non-use are coded. The main cue is defeasibility, which is possible if the meanings are implicated, though not if they are coded. McGregor (2006, 2010) argues that the pragmatic account gives wrong predictions for Gooniyandi and Warrwa, and is inconsistent with the non-defeasibility of the associated meaning.

McGregor (2010) suggests that optional accusative marking of Undergoers (basically, transitive objects) is amenable to the same mode of treatment. That is, that usage of the accusative is associated with prominence, non-usage with backgrounding. This seems to be borne out in some languages. For instance, Hill (2005) links use of the "object" marker on inanimate NPs in Cupeño to discourse

considerations: the accusative tends to be used in discourse-prominent positions, usually positions of high narrative tension. However, for animate NPs the situation is not so clear-cut, and marker is usually present; its absence doesn't seem to correlate with discourse structure. Fujii and Ono (2000) argue that in Japanese omission of the accusative marker *o* is the unmarked option (see also Fry 2003: 99). It is used only when the information indicated by the direct object is discourse-salient, or when additional cognitive processing is required; likewise, Kurumada and Jaeger (2012) argue for correlations between use of the accusative and unexpectedness. Thus in both languages use of the accusative marker apparently assigns prominence to the Undergoer (though only if inanimate in Cupeño); the situation in Korean appears similar (as per literature cited in Lee 2007: 1466–1468).

What is different from optional ergative case marking are the reasons for assigning prominence to or backgrounding a grammatical role. These are expected to relate to (among other things), the expectedness of the entity as Undergoer (which may invoke considerations of animacy), the degree of patientivity of the Undergoer, and/or grounding at the text or discourse level.

3.3 Ellipsis of NPs in Gooniyandi

A possible example of optionality that does not have coded semantics comes from Gooniyandi, in the optional presence of overt NPs serving in participant roles (i.e., serving as arguments). As in the standard average Australian language, NP ellipsis is rife, and it is rare for a clause to have its full quota of inherent grammatical roles realized by NPs. A count made over 15 mainly narrative texts showed that fully 80% of clauses involved at least one inherent grammatical role that was not represented by an overt NP.

This seems to be a situation of NP optionality in the realization of participant roles: the NP can be present or absent without any change to the grammatical structure of the clause in terms of its configuration of inherent roles. (The story for realization of non-inherent grammatical relations is a completely different one, and takes us away from the domain of optional elements, as per our treatment of Crystal's "optional" adverbial elements.) Neither use nor non-use of an NP appears to convey any specific meaning; both appear to be without coded meaning.[13]

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13 Here I depart from McGregor (1990: 361) who suggests that meaning is coded by use and/or non-use of NPs in Gooniyandi: use codes non-given information status, whereas non-use codes givenness. Although it is the case that given (retrievable, predictable) NPs filling participant

Use of an NP is unmarked for prominence, and assigns no special prominence to the NP referent; use is thus associated with the feature [−prominent]. Examples (30) and (31) illustrate that an overt NP may be associated with an entity that is either prominent or insignificant in a narrative – and thus presence (use) of the NP cannot be held to accord it prominence. (30) introduces one of two key protagonists into the narrative text, with the NP *yoowarni* 'one'; by contrast, the NP *gamba* 'water' introduces an entity that plays at best a subsidiary role in the story. Similarly, in (31) the man's wife is introduced with an overt NP, although she herself plays no role whatever in the plot. This sentence provides collateral explanatory information, alluding to an event crucial to the plot though not explicitly mentioned in the preceding text, the theft of his wife by the station manager.

(30) *yoowarni-ngga /   gamba   bambim-gila-ø+ng+a /*
　　 one-ERG　　　　 water　　 pump-FACT-3sgACC+3sgNOM+A
　　 'One was pumping water.'

(31) *garingoo-wa /   barnanggarr-ø+ø+wini /*
　　 wife-GEN　　　 snatch-3sgACC+3sgNOM+BINI
　　 'He grabbed his (own) wife.'

Similarly, non-use of an NP is unmarked for the feature [backgrounded], and tells us nothing about grounding relations: the fact that an NP serving in a participant role has been omitted does not necessarily background the referent (or anything else, such as its role). Thus in (31) the Agent NP has been ellipsed; the referent remains the key protagonist in the story, and stays at the center of attention at this point in the development of the plot. Protagonists are in fact frequently not denoted by overt NPs, and there is no implication that they are in any sense assigned to the background, or shifted out from the joint attentional frame. By contrast, in (32) the kangaroo plays a subsidiary role in the narrative: it is a part of the setting against which the actions of the humans (and dogs) are brought into relief. This narrative is about hunting, and it is clear that a number of different kangaroos are involved in the story as game, and the kangaroo referred to in this sentence is not the same one as in the previous sentence.

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roles are usually ellipsed, and new (unpredictable) NPs are usually present, these are at best statistical associations, and given NPs are not always ellipsed, nor are new NPs invariably present. Nor do the reverse inferences hold: the fact that an NP has been ellipsed does not mean that the referent (or type) is necessarily retrievable, nor does the fact that it is present necessarily mean that the referent (or type) is new. (Some examples can be found below.)

(32) *ngambirri-nyali /   tharra-ngga   doow-nyali-ø+wirr+a /*
     again-REP   dog-ERG   get-REP-3sgACC+3plNOM+A
     gard-nyali-ø+wirr+ini /
     hit-REP-3sgACC+3plNOM+BINI
     'Again the dogs got a kangaroo and killed it.'

It thus seems that use vs. non-use of overt NPs in participant roles in Gooniyandi is pragmatically motivated. The meanings are derived by implicatures; they are not coded. Let us now see how pragmatic principles can be used to account for the use vs. non-use of NPs; here I employ Levinson's principles (Levinson 2000), since these are more usable than Gricean maxims or Relevance theory.

Recall first that the normal situation is that an NP serving in a participant role is ellipsed; that is, no NP is employed at all. Non-use of an NP serving in a participant role is evidently the unmarked and minimal expression. According to the I-principle (Levinson 2000) – Grice's second maxim of quantity – unmarked minimal expressions warrant interpretations to the stereotypical extensions. What is the stereotypical extension in the present context? Evidence from investigations of Gooniyandi narratives reveals that the usual situation is that a clause will involve in its participant roles entities already introduced. Thus when the narrator utters (31), the hearer will infer that the missing entity can be supplied from the narrative context, and thus that the Actor is the man who is at the center of attention at this point in the story.

The marked situation is presence of an NP in a participant role. By the M-principle (Levinson 2000) a marked full expression invokes a marked interpretation. Roughly, more marked form, more marked meaning. Thus, the marked form indicates that a non-stereotypical interpretation should be invoked: thus there is something unusual or exceptional about it; the situation is not stereotypical. If the unmarked utterance I-implicates p, then the marked utterance M-implicates the complement of p. As we have just seen, the unmarked form, non-use of an NP, I-implicates we are talking about something in the joint attentional frame. Applying the M-principle to the situation in which an NP is present we can infer the complement of this proposition, therefore that we are not talking about something we have been talking about already. It must be something else, something new.

Being implicatures, they are defeasible. Thus, the interpretation of ellipsis via the I-principle can be defeated if no entity is present in the universe of narrative entities – the search domain – that could plausibly fill the role. This happens occasionally in narratives, as shown by (33), which comes from one version of the fire myth.

(33) *niyi-ngga   doow-ng+arni-wirrangi*
    that-ERG   get-3sgNOM+ARNI-3plOBL
    'He took it from them.'

There is nothing in the narrative world at this point that might have been taken from the people. Indeed we have been very explicitly told that they had nothing. My interpretation is that this strategy (effectively, flouting a maxim) provides a means for the narrator to create suspense – to draw attention to something as yet unknown, rather like pointing at something not visible to the addressee. The suspense is resolved two clauses later in a quote, where it is revealed that the thing taken is the people's fire. (Fire was not amongst the items that the narrator specifically said the people lacked, and might be presumed to be in their possession as human beings, even if they had nothing.) In effect, this strategy would seem to accord greater prominence to the fire than if it had been mentioned in the usual way, by a marked expression, i.e., by an NP. This strategy is used occasionally in Gooniyandi narratives in the introduction of crucial information, including the most significant protagonists.

This example demonstrates that the meaning 'given, already mentioned, predictable' cannot be coded by non-use. Nonetheless, meaning can be associated with ellipsis via pragmatic implicatures. Absence of coded meaning does not mean absolute meaninglessness.

3.4 Optional definite marking in Tirax

Brotchie (2009: 536–585) discusses the optionality of definite and indefinite markers in narratives in Tirax. She suggests that the framework outlined in Section 2.2 above works up to a point, but cannot account fully for the use vs. non-use of these markers. I attempt to demonstrate in what follows that she has reached this conclusion too hastily, and that the Tirax situation is consistent with my proposals. For practical reasons of length, I examine just one of the situations she discusses, namely ordinary referential lexical NPs either with or without the definite marker. Other scenarios discussed in Brotchie (2009) include genitive NPs marked vs. non-marked by the definite marker, and NPs marked vs. non-marked by the indefinite marker. I further restrict attention to narratives with human protagonists; according to Brotchie, the pattern of usage of the definite marker is somewhat different in narratives with animal protagonists. Unless otherwise stated, these restrictions are presumed in the following discussion.

To begin with, it is observed that the use of the definite marker (DEF) *ŋe* is markedly different on old NPs – that is, NPs referring to entities already estab-

lished in the discourse – denoting higher order animates and NPs denoting lower order animates and inanimates. For higher order animates the definite marker is used on 83% of NP tokens, whereas for other NPs it is used only 19% of the time (Brotchie 2009: 543).[14] On the basis of frequency, it seems reasonable to presume that what needs to be accounted for is: (a) non-use of the DEF with higher animate NPs; and (b) use of DEF with other NP types. The infrequent instances (a) and (b) are what we would expect to convey meaning, to have coded meanings. The frequent, normal state of affairs for the two NP types, the complements of (a) and (b), we might expect to have no coded meaning, to be semantically unmarked. In the following discussion we begin with the situation in which the NP denotes a higher order animate, and then turn to other NPs.

In the ten narratives in Brotchie's corpus there are 16 higher order animate NPs in which the DEF is not present. Table 5 lists the NPs in these narratives that occur without the DEF marker.

Brotchie (2009: 548–552) argues that non-use of DEF on higher animate NPs is associated with two functions: (a) marking of prominent backgrounded

Table 5: Distribution of higher order animate NPs not marked by the DEF in Tirax narratives (Source: adapted from Brotchie 2009: 547)

NP	Narrative	Instances of bare lexical NP	Instances of formally definite NP	% of NPs without DEF
mrɛ 'people'	Snake and coconut	4 (Subject)	0	100%
lahlahvuxvux 'devil'	Five planks	3 (Subject)	2 (Subject) 1 (Object)	50%
tnah 'devil'	Tahitian chestnuts	3 (Subject) 2 (IO) 2 (Possessor)	7 (Subject) 1 (IO)	47%
vinadr 'woman'	Girl with sores	1 (Topic, Object)	2 (Subject) 1 (Object) 2 (IO)	17%
marbih 'boy'	Tahitian chestnuts	1 (Subject)	9 (Subject) 1 (Object) 1 (IO)	8%

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14 Although not explicitly stated at this point in Brotchie's text that these counts apply to old NPs, this seems to be the implication. As I understand it, the DEF marker may also be used on NPs introducing entities that are inferable, e.g., by bridging inferences. It seems, however, that such NPs are not included in the counts. In the ensuing discussion, it is presumed that we are dealing with old NPs, which represent the main environment in which the DEF is possible; this will not be repeatedly respecified.

entities; and (b) "anti-shifting", preventing a shift of character focus from the previous center of deixis. She avers that the first of these is consistent with the theory of Section 2.2 above, though the second is not. Below I present evidence that both are in fact consistent with the theory.

To begin with, it is not clear what exactly Brotchie (2009) means by "prominent backgrounded". As far as I can determine, it involves two components: (i) the containing clause presents backgrounded information in the narrative; and (ii) the entity referred to is locally prominent in this environment, i.e., in the backgrounded clause. As I understand it, Brotchie interprets backgrounded as a property of descriptive clauses that provide contextualizing information (Brotchie 2009: 547–548); NPs occurring in such clauses are accordingly backgrounded. This is a not identical with the notion of backgrounding employed in this paper, which refers to a process, not a condition: a process of assigning something to the background, regardless of its nature – i.e., regardless of whether or not it occurs in a descriptive clause. Backgrounding as the term is used in this paper cannot be read off from linguistic structure; something currently at the center of shared attention can be backgrounded by a linguistic choice (recall the discussion of Fig. 1). Of course there is a correlation between the process of backgrounding and linguistic features: typically one will background descriptive and contextualizing information.

An example of (a) non-use of DEF on a "prominent backgrounded" NP is in the third tone unit (underlined) of (34), from Brotchie (2009: 548). The NP *vinadr* 'woman' appears without the definite marker even though this NP presents an old referent, the wife of the man who has just been killed, and who may be presumed to be in the speech interactants' minds at this point in the narrative.[15]

(34) (0.5) *s=rub-din-i /*   *i=nev /*   *vinadr   s=rub*
3plRLS=hit-dead-3sg   3sgRLS=finish   woman   3plRLS=hit
tɛmul –   *tɛ*   *xain*   *i=haxra*   *xini*   *narit /*
no.more   SUB   3sg   3sgRLS=knot   OBL   rope
'They finished killing him (but) they could no longer kill the woman because she had knotted a rope'

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15 My representations of the Tirax examples do not make all of the prosodic distinctions shown in Brotchie (2009), since they are not relevant to the present argument; I simply represent the end of intonation units by a slash (/). Figures in brackets at the beginning of lines indicate pause lengths in seconds. My abbreviations in the gloss lines also differ slightly from Brochie's, in most instances for the purposes of consistency with the Leipzig glossing rules. Otherwise, no changes have been made to the example sentences.

(0.4) *i=lxe   betixdrale=na /   i=lilix   linha /*
3sgRLS=tie   throat=ASS   3sgRLS=hang   high
'and tied it around her neck and hanged herself.'

(35) illustrates the second situation, (b), of "anti-shifting", whereby there is no shift of "focus of character" when the DEF marker is not employed. The relevant clause is the third one (underlined), with the plain NP *tnah* 'devil' which refers to one of the key interactants in the narrative at this point (the other being the main protagonist, the boy). The clause itself is a narrative or plot clause, not a backgrounded clause, and the principal focus remains on the boy as protagonist.

(35) (0.7) *marbih   ŋe   i=v-va –*
child   DEF   3sgRLS=RDP-say
'The boy said'

(0.2) *məm-   bar=vrakɛ   bo /*
HES   2duIRR=carry.in.hand   DIM
"We'll just carry them in our hands."

(0.3) *ale   tnah   i=vrakɛ   nŋe /*
so   devil   3sgRLS=carry.in.hand   PART
'So the devil carried some,'

(0.5) *ale: /*
so
'and'

(0.2) *xain   i=vrakɛ   nŋe /*
3sg   3sgRLS=carry.in.hand   PART
'he himself carried some.'

I would argue that both (a) and (b) exemplify backgrounding (in the sense of this paper) of the referent of the animate NP. In neither is there a challenge to the status of the other activated entity as protagonist; the status of the clause itself as backgrounded (contextual, non-plot) or narrative (plot) is irrelevant. I submit that the prominence associated with Brotchie's (a) is illusory, a consequence of the use of an NP instead of its omission. This meaning is not, that is, associated with the non-use of the DEF marker.

The situation in (b) differs from (a) in being associated with unmarked subject NPs rather than unmarked object NPs. The "anti-shifting" function, I would argue, is not conveyed by omission of the DEF marker, but is pragmatically engendered: omission of the DEF marker on a subject NP codes, I have suggested,

the backgrounding of the referent in the sense of putting it outside of the joint attentional frame. This does not imply backgrounding of the clause. Use of the plain NP without the DEF marker provides no challenge to the boy in (35) as a protagonist. Assuming that a principle such as the Expected Actor Principle (see McGregor 1998) is viable in Tirax, the unmarked NP will not result in a shifting of focus of character to the referent of the NP.

What this reveals is that we need to tease out the levels at which particular meanings are conveyed (as suggested in Section 3.2, but here not in the morphology vs. use dimension). Specifically, it is suggested that there **is** an invariant meaning associated with non-use of the DEF marker in both (a) and (b). This does not imply that there is no meaning difference between them. What it does imply is that the difference lies elsewhere than in optionality (specifically, omission). Rather, it lies in the different pragmatic implicatures that emerge in accordance with the clausal environments in which the bare NPs occur.[16] Optionality by itself is only a part of the story, and the theory outlined in Section 2.2 is not claimed to account for everything.

Let us now turn to other NP types, NPs denoting non-higher order animates. Here Brotchie's findings are by her own account consistent with the theory of Section 2.2. Specifically, non-use of the DEF on definite NPs conveys nothing, while its use is associated with the plot events of a narrative; some degree of prominence is assigned to the referent.

Brotchie identifies three environments of use of the DEF marker in these other NP types, all of which are associated with plot (rather than backgrounded) clauses (Brotchie 2009: 552). The first environment is NPs which do not present given or predictable information, but for which the identity of the referent is inferable (by cultural knowledge, bridging inferences, etc.). For animates, the DEF marker might plausibly be used to draw attention to the referent, because it is not in the joint attentional frame, and inferencing processes are required in order to identify it. In the case of inanimate referents, Brotchie's very brief discussion suggests that such NPs play important facilitative roles in the stories, for instance, a saucepan in a text about cooking. In both circumstances use of the DEF marker plausibly accords these NPs prominence, drawing them to the center of attention of the speech interactants.

The other two environments involve lower order old NPs, which present given or predictable information. In one environment, a place that is significant either as

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16 Another alternative is that use of the DEF in the two contexts conveys a different sense, namely that it accords focus when attached to a subject NP, but has no effect when attached to an object NP. I am unable to decide between these alternative scenarios, both of which are consistent with the theory of Section 2.2.

an important location in the story or as a place with mythological significance is denoted by a DEF NP. The final clause of (36), from Brotchie (2009: 553), is an example; here reference is made to an already introduced place, this particular rock.

(36) (1.0) *be   ren-tɛ   nŋe   bih   tax /   i=van   dax /*
        but   time-SUB   one   small   last   3sgRLS=go   PFV
        'But the youngest one had already gone'
        i=leh   dax /   a:
        3sgRLS=see   CMP   HES
        'and seen'

    (0.5) *naxde   nunu   han /   tɛ*
           wings   mother   3sgPOS   SUB
           'his mother's wings as'

    (0.3) *vakal   mlaxes /   i=vla /*
           lizard   green   3sgRLS=go.away
           'a green lizard ran off'
           be   i=stretem   a: . .   nvat   ŋe /
           but   3sgRLS=straighten   HES   stone   DEF
           'and ran straight to the rock.'

    In the third environment, the NP refers to some already mentioned inanimate entity that is significant to the plot, by for instance contributing to the resolution of the narrative problematic. This is illustrated by the DEF NP *nmab ŋe* 'the chestnuts' in the second line of (37), from Brotchie (2009: 579). These play an important subsidiary role in the unfolding of the plot, in providing the means by which the boy escapes from the devil.

(37) (0.6) *ale   i=narxat   na /*
        so   3sgRLS=get.up   now
        'So he gets up'

    (0.2) *i=lev   nmab   ŋe   i=tve-   i=tveh   drul   xini*
           3sgRLS=take   chestnut   DEF   HES   3sgRLS=rub   all   OBL
           xain /
           3S
           'and takes the chestnuts and rubs them all over himself.'

    (0.3) *nede-n   xar   i=vlxnɛt   drul /*
           body-3sgPOS   DST   3sgRLS=turn.black   all
           'That body of his became black all over.'

Table 6: Semantics of optional definite marking of Tirax NPs of various types in narratives with human protagonists

	1	2	3	4
use	coded meaning +prominent	coded meaning +prominent	no coded meaning −prominent	no coded meaning −prominent
non-use	coded meaning +backgrounded	no coded meaning −backgrounded	meaning +backgrounded	no coded meaning −backgrounded
	–	lower order animate and inanimate NPs	higher order animate NPs	–

(0.3) *lal   mta=nan   bih   bo   i=vuh /*
     inside   eye=ASS.3sgPOS   small   DIM   3sgRLS=white
     'Only the whites of his eyes were white.'

As Brotchie puts it:

> Plot-salient props tend to be formally marked for definiteness only when their function in the narrative is being realized. It supports the idea of unexpected definite marking being associated with foreground prominence in Tirax. (Brotchie 2009: 555)

The situation for Tirax definite marking in narratives with human protagonists can thus be summed up as shown in Table 6.

Admittedly this is only a part of the long and complicated story of optional definiteness marking of NPs in Tirax – and I have not even addressed the issue of optional indefinite markers. Moreover, I have not presented empirical evidence that use or non-use of definite marking actually codes the associated meanings; what I have presented is at best suggestive. (The same holds true for Brotchie 2009.) Nevertheless, the evidence presented in this section strongly suggests that Tirax is amenable to the theory of optionality presented in Section 2.2 above, and that (contrary to the claims of Brotchie 2009) the facts of this language do not challenge the theory. As I have stressed, optionality does not account for everything – and should not be expected to.

The difference from the situation for definite marking in English is evident. In English definite and indefinite articles are not optional. NPs with and without articles represent different constructions, with different semantics. Without the marker we have generic and non-referential NPs; with articles the NPs are referential. The only sense in which articles in English NPs are "optional" is the convenience-of-description sense, which permits a simple formula for the structure of NPs, with an optional Determiner.

3.5 Optionality of person and number markers in Cupeño

Cupeño has a set of person-number clitics that form a part of an auxiliary complex that also includes evidential and modality clitics. This auxiliary complex usually attaches to the end of the first word of a clause, sometimes to the first constituent (Hill 2005: 61). The person-number clitics don't occur with past tense verbs, but usually occur otherwise. There are a number of peculiarities and irregularities we need not go into here; in what follows we focus attention on the broad patterns of usage.

For realis verbs, there are two series of clitics in the non-future, an ergative set and an absolutive set, as shown in Table 7. For irrealis verbs, only in the 2nd and 3rd plurals are the ergative and absolutive forms distinct; elsewhere, no case distinctions are made in the clitics (Hill 2005: 80).

(38) and (39) illustrate the contrasting ergative and absolutive form of the third person singular.

(38) *me=t*   *pe'=e*   *kumu*   *awa-l-i*   *yax-we*
    and=3sgABS   3sg=CF   like   dog-NPN-ACC   say-PRST
    'And he is just like a dog.'
    (Hill 2005: 78)

(39) *eye-t=pe*   *itu-qa*   *ne-'ach-i*   *gayiina'a-y*   *tukmuchi*
    thief-NPN=3sgERG   steal-PRS   1sg-pet-ACC   chicken-ACC   last.night
    'A thief stole my chicken just last night.'
    (Hill 2005: 78)

In the past tense the system of person-number enclitics is not used, and person-number marking follows a nominative-accusative system (Hill 2005: 61). Person/number of the subject is indicated by an affix in the verbal construction

Table 7: Non-future person-number clitics in Cupeño (Source: Hill 2005: 78)

Person-number	Absolutive	Ergative
1sg	=en	=ne
1pl EXC	=esh	=che
1pl INC	=che='el	=che=me
2sg	=(')et	=(')ep
2pl	=el	='em(e)
3sg	(=et)	=p(e)
3pl	=el	=me

(Hill 2005: 77), whereas person/number of object is optionally encoded in a proclitic to the verb construction (see below). The latter proclitics can appear with any verb construction, not just with verbs in the past tense.

In narratives the person-number clitics are virtually restricted to quoted speech, narrative clauses being typically in past tense and perfective aspect. In quoted speech, if the Agent is 3rd person singular the person-number clitic may be either used or omitted. Use of the clitic is rare, has an emphatic quality, according to Hill (2005: 79), heightening the volitionality of the Agent, with implications of dangerousness or guilt or other forms of agency and efficacy (Hill 2005: 456). This is illustrated by (40) and (41). (40) is a piece of reported speech by Coyote's wife in which she accuses her husband of a murder. (41) appears in the story "Coyote and Juncoes". Two juncoes (a type of bird) are trying to kill Coyote by getting him to jump onto a sharp stick. However, he is afraid to do so, and utters (41), in which the inanimate stick is cross-referenced by the ergative clitic.

(40) *i'i=$he=pe*   *aput*   *meqa-qa*[17]
     PDEM=DUB=3sgERG   already   kill-PRS
     'He must have already killed her.'
     (Hill 2005: 457)

(41) *ne'=e=qwe=p*   *ne-$ha'i*   *ni=wek-i*
     1sg=CF=NONI=3sgERG   1sg-belly   1sgACC=cut-HAB
     'As for me, it might cut my belly.'
     (Hill 2005: 457)

Given that the normal situation is for the clitic not to be used, one presumes that its non-use conveys no specific information. Granted this presumption (which unfortunately is not examined in detail in Hill 2005), the optionality of the 3sg ergative enclitic would seem to be as for the optionality of the ergative case marker in Umpithamu and Kâte: use of the form accords prominence to the Agent, non-use codes no meaning.

For other person-numbers the optionality alternative does not exist, though there is a choice of use of ergative vs. absolutive clitic which also relates to volitionality (Hill 2005: 455–456).

In the past tense the object proclitic is almost always used when the object (Undergoer) is 1st, 2nd, or 3rd person plural, but is rarely used for 3rd person singular objects. For the latter category, the proclitic is rare on backgrounded verbs in imperfective aspect, but usual on foregrounded perfective verbs, in the

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17 *$h* indicates a retroflex fricative (Hill 2005: 14).

main narrative line (Hill 2005: 451). This is shown by the following two examples, with imperfective and perfective verbs (not marked by a dedicated morpheme) respectively.

(42) *mu=ku'ut puki-ly   tem-pe-qal*
　　 and=RPT   door-NPN   close-3sg-PIS
　　 'And it is said she closed the door.'
　　 (Hill 2005: 451)

(43) *mu=ku'ut pe'=e   pe-$huun   pilyev-pe-yax,   puki-ly=ku'ut*
　　 and=RPT   3sg=CF   3sg-heart   break-3sg-TCS   door-NPN=RPT
　　 pi=maa-pe-n   kapel-i-nuk
　　 3sgACC=leave-3sg-TCS   open-TCS-SS
　　 'And it is said she forgot, she left the door, having opened it.'
　　 (Hill 2005: 451)

This correlation suggests that the proposals of Section 2.2 may also account for the optionality of the 3rd person singular object proclitic, similar to the way they account for the optionality of the definite marker in Tirax (in Section 3.4), which was also strongly correlated with foregrounded and backgrounded clauses. There would seem to be two possibilities consistent with both Section 2.2 and Hill (2005). First, both use and non-use may have a coded meaning, +prominent and +backgrounded respectively. And second, it could be that we need to distinguish between two circumstances, perfective and imperfective clauses, with use vs. non-use motivated differently in each, as per Table 8 below. In the absence of discussion of the exceptions to the correlations with foregrounding and backgrounding in Hill (2005), I am unable to decide between these two possibilities.

For other persons and numbers, given the strong statistical associations mentioned above, 3 would seem to be the most likely situation.

Table 8: Possible semantics of use and non-use of 3rd person singular object proclitic in Cupeño

	1	2	3	4
use	coded meaning +prominent	coded meaning +prominent	no coded meaning −prominent	no coded meaning −prominent
non-use	coded meaning +backgrounded	no coded meaning −backgrounded	coded meaning +backgrounded	coded no meaning −backgrounded
	–	imperfective aspect	perfective aspect	–

3.6 Concluding observations

The above case studies are admittedly not entirely conclusive, and further elaboration and details are required to fill in the gaps to make them compelling. Moreover, they barely scrape the surface of the range of phenomena in human languages that have been described as optional. According to Bisang (2004), for instance, many grammatical categories in South-East Asian languages are not obligatorily selected from. It is uncertain, however, which of these count as optional in the sense of this paper. To wind up the case studies I briefly overview some additional grammatical phenomena relevant to the proposals of this paper.

Many Khoe-Kwadi languages of Southern Africa have person-gender-number markers (e.g., Hagman 1973; Kilian-Hatz and Heine 1998; Güldemann 2004; Kilian-Hatz 2005; Chebanne 2008). In Shua there are just three of these markers, two gender markers *-ma* MAS and *-ʃa* FEM, and one number marker *-na ~ -n* PL. The former pair are rare on lexical NPs. Their use appears to underline the personhood of the referent. Thus they are common only on NPs with personal names as head. On non-human NPs their use appears to be motivated by personification. For example, in tellings of the frog story (Mayer 1969), NPs denoting the frog, one of the protagonists of the story, are frequently accorded a gender marker. But otherwise NPs denoting lower order animates such as frogs usually don't take a gender marker. These observations are consistent with the suggestion that use of the gender markers accords prominence to the referent's gender, and thereby personhood.

Hill (2005) discusses the optionality of a range of grammatical morphemes in Cupeño. She relates their optionality primarily to foregrounding in relation to narrative structure (as per the comments of Section 3.5). However, not all of the "optional" phenomena of Hill (2005) are optional in the sense of this paper. An example is the evidential clitic, the reportative *=ku'ut*. This clitic is sometimes absent in clauses expressing non-firsthand information (where it is expected), and sometimes present in clauses conveying firsthand experiences (where it is not expected) (Hill 2005: 459–460). However, assuming that this clitic modalizes the clause, holding it within its scope (as per McGregor 1997), there is a structural difference between clauses with the clitic and clauses without it. Thus the presence/absence of the clitic would not count as an instance of optionality.

In Spanish it seems that Undergoers, whether animate or inanimate, may be marked by the dative preposition *a* or left unmarked, although the more individuated the Undergoer, the more likely it is to be marked by *a* (Delbecque 2002). Delbecque (2002) argues that there are two different constructions, corresponding to clauses with or without the dative marker. In a similar way, Rumsey (2010) argues that in the Australian language Bunuba (a close relative of Gooniyandi),

clauses in which the Agent is marked by the ergative contrast with clauses in which they are not as distinct constructions, the latter having lower transitivity values. Granted these analyses, neither language shows (respectively) optional marking of the Undergoer or Agent.

Descriptions of a number of languages refer to optional verbs of stance (typically 'stand', 'sit', and 'lie') in attributive, locational, and sometimes existential clauses. This is the case in most grammars of Australian Aboriginal languages, which generally claim that the verb of stance is optional, and that there is no meaning difference between clauses that have a verb and clauses that lack a verb (e.g., Dixon 1977: 271–272, 500; Heath 1984: 516; Tsunoda 1981: 123). The verb of stance is analyzed as a meaningless copula, which serves as a locus for the expression of verbal categories such as tense and mood. The presence of the verb of stance is usually claimed to be conditioned by whether the quality, location, or existence is situated in the past or future; it is not found if the relation holds at the present time (e.g., Haviland 1979: 115–118; Yallop 1977: 123). If the presence/absence of the verb of stance were 100% predictable in this way, this would constitute a counterexample to my proposals. However, it is apparent from the descriptions that the correlations are at best probabilistic, and that exceptions exist in which the verb is used of relations applying at the present time, not used in relations obtaining at other times. Thus more careful investigation of these exceptions is required to put the proposals of Section 2.2 to the test.

On the other hand, it is possible in a given language that there is a structural difference between clauses with and without the verb of stance, and that e.g., an attributive clause with a verb and an attributive clause without a verb represent distinct constructions. McGregor (1990: 308–312) argues that this is the case in Gooniyandi (see also McGregor 1996). The same situation appears to obtain in nearby Nyulnyulan languages Nyulnyul (McGregor 2012: 546, 552) and Warrwa. Thus verbs of stance are not optional in attributive, locational, or existential clauses in languages like these.

I do not presuppose that this analysis applies to all languages, and admit that in some the presence vs. absence of the verb of stance may not affect the construction, in which case the verb would indeed be optional. Assuming that no meaning is coded by either use or non-use of the verb, we may presume that configuration 4 of Table 1 obtains. If the verbless mode of expression is the most frequent and usual circumstance, then, following Ameka and Levinson (2007: 855), we can apply the M-principle to conclude that presence of the verb of stance suggests that there is something abnormal about the position, orientation, or whatever of the entity attributed on, located, or claimed to exist.

The domain of putatively optional verbs of stance and/or copulas provides a fertile testing ground for my proposals. However, to adequately deal with this

wide and varied domain is well beyond the scope of the present paper; and deeper descriptions of the phenomena are required to test my proposals than can be found in most descriptive grammars.

As a final illustration consider the relativizers *that*, *who*, *which*, *when*, *where*, etc. in English, which are optional under certain conditions in restrictive relative clause, as illustrated by (44) and (45).

(44)　*Do you know where the video (that) we watched yesterday is?*

(45)　*We arrived back at the place (where) we had seen the accident*

Jaeger (2006: chapters 4–5) suggests that the situation for optional relativizers is similar to the situation for the optional complementizer *that* (as per Section 3.1): the likelihood of use vs. non-use of relativizers correlates with unexpectedness vs. expectedness of the information conveyed by the relative clause. Similarly, Jaeger (2010: 48) suggests that so-called *whiz*-deletion is motivated by the preservation of uniform information density. These correlations are consistent with the predictions of the present theory of optionality, and suggest that a careful investigation of optional relativizers and *whiz*-deletion within my framework is likely to be revealing.

4　The ecology of optionality

4.1　A typology of zeros (or nothings)

> If some men in civilian clothes are soldiers, this is no reason for suggesting that they wear zero-uniforms. (Haas 1957: 53)

Optionality (defined as in Section 2.1) involves a contrast between using an overt linguistic unit (a morpheme, lexeme, phrase, or whatever) and not using it – which is not the same thing as employing something vs. employing nothing (or zero!). Non-use of an optional element might be construed as a type of zero, though it is certainly not a morphological zero, not a "zero morpheme", i.e., a morphological unit constituted by no substance, but having an inherent coded meaning. Perhaps it could be said that it represents a "usage zero" (which is again not the same thing as a usage of a zero). If this is so, what are the properties of this type of zero, and how does it situate itself within the paradigm of empty linguistic elements?

Haas (1957: 42–43) argues that there are problems inherent in construing zero as a linguistic entity. It is better construed, he avers, as an operation, the operation of omission. While I agree that the construal of zero as a linguistic entity is somewhat problematic, it is not clear that across-the-board replacement by the operational construal is viable. The operation of omission, it seems to me, is most appropriate for the "zero" of non-usage in circumstances of optionality, wherein a speaker is faced with the genuine choice to use or not use a certain item of form. In cases such as the irregular zero plural of English (i.e., zero allomorphs), and the zero third person singular bound pronominal or agreement marker (i.e., zero morphemes) it seems misleading to suggest that an omission operation is involved. It makes more sense to see these zeros in static terms, albeit not as actual things of morphological substance, "zeros". A more appropriate construal of zero morphemes and allomorphs invokes the notion of a gap, a hiatus in paradigmatic coding (McGregor 2003a: 113). This proposal has the advantage that it resolves the problems inherent in the false analogy of linguistic zeros with zero of mathematics (which is an overt form coding the meaning 'nothing, no quantity', whereas in linguistics the zero has no overt form, a formal nothing, with a "something" meaning, a discernible meaning).

Three types of gap can be distinguished: allomorphic, morphemic, and syntactic. Allomorphic gaps may appear in the paradigm of a lexeme (e.g., zero allolexes of the 'give' verb occur in most Nyulnyulan languages) or in the paradigm of a grammatical morpheme (the more usual situation). These are subject to few constraints, except – one expects, given Zipf's laws – that they are more likely to be found in frequent morphemes than in infrequent ones, and thus in the verb *give* rather than *stretch*, and in a plural morpheme rather than a paucal morpheme. Morphemic gaps seem to be more constrained. The best candidates are in paradigms of bound pronominals, where the gap is the third person singular form. My guess is that morphemic gaps are like this pronominal gap, and are restricted to conveying indexical meaning (see also McGregor 2003a: 109); however, to argue this is well beyond the scope of this article, and would require careful investigation of the motivations for the large range of putative zero morphemes that have been identified in the literature. Likewise, some of the best instances of syntactic gaps, gaps in syntagmatic constructions, as in *he tried to please her* (where a gap perhaps exists in the structure of the infinitival clause, in which a grammatical role goes unrealized – PRO in generative grammar) also seem to be indexical in nature.

What has been suggested in this paper is that operational zeros of omission are also severely constrained semantically: the type of meaning they code is exclusively interpersonal, concerning joint attention. If these claims can be substantiated in a larger and more varied corpus of optional phenomena, this would

imply that most zeros are quite restricted in terms of the meanings they can encode. This implies significant restrictions on the arbitrariness of a category of linguistic signs, and indicates that substance, the physical manifestation of linguistic forms (as per Hjelmslev 1961: 52–58), plays a more significant role in the grammatical systems of human languages than admitted in structuralist linguistics.

4.2 The optimality of optionality

Optionality represents one of the means available in languages for increasing systemic optimality. To highlight or background some component of meaning it is more economical to deploy the contrast between presence and absence of a unit rather than to use two distinct morphemes. To return to the analogy of the police vehicle, I am not aware of anywhere where a system of two sirens is used, one for "engaged in police work" another for "not engaged in police work". To do so would be uneconomical, even confusing. A siren can hardly fail to draw attention to the vehicle, and is not an effective way of indicating "just cruising around, don't pay special attention to this vehicle". Rather, what we find is two situations, each with obvious correlates in linguistic systems. First, and most obviously, where two or more distinct sirens are in use, they indicate different emergency services are engaged in their respective work: police, ambulance, or fire brigade. Second, occasionally one finds that two identifiably distinct siren sounds are used by a single service, both drawing attention to the vehicle; one is however more urgent than the other, and highlights it to a greater extent. Generally two such sirens will differ in quality, one (the more urgent one) being more auditorily prominent than the other.

The linguistic correlate of the first situation is that in which two optional systems coexist in a language, but concern different paradigmatic systems. For instance, a system of optional ergative marking of Agents, along with a system of optional locative marking of locations.

The second situation corresponds to contrastive marking of a grammatical relation or category (e.g., McGregor 2010), whereby in the same circumstances as optionality it is possible to employ one or the other of two morphemes (see also Keine and Müller 2008). Effectively:

(46) Two linguistic units are contrastive markers iff, in a specifiable set of linguistic circumstances:
 (a) either may be employed;
 (b) the construction remains identical regardless of which is employed.

Contrastive marking exists in some case-marking systems. For instance, in Warrwa there are two distinct ergative postpositions, which can in general replace one another without any effect on the construction (McGregor 2006). As indicated earlier, one of the morphemes codes a focal meaning, drawing particular attention to the agentivity and/or identity of the Agent, whereas the other is the ordinary ergative marker. The two morphemes are *-nma* fERG and *-na* ERG, respectively. As in the second siren situation, the form that serves to draw attention most is the one with more substance, the longer and more phonologically complex one. This is in keeping with expectations engendered by Zipf's laws.

My guess is that the Warrwa situation is typical of situations of contrastive marking in the respect that the contrast between the markers will relate to the dimension of focality. One morpheme (typically the one that is largest in form) will code focus, which is understood to be somewhat more in attentional terms than simply prominent. The other morpheme codes nothing concerning attentional status.

Keine and Müller (2008) argue in effect that optional marking represents a special limiting case of contrastive marking, in which one of the two elements in contrast is a zero: a zero vs. non-zero alternation is a type of less vs. more alternation. A problem with this approach is that Keine and Müller (2008) do not motivate their claim that a zero of form is actually present in those cases in which the non-zero morpheme is absent. In the cases discussed in Section 3 above there is no evidence of presence of a zero morpheme, and construal of the opposition of use vs. non-use as an opposition between two forms is not motivated. It may be that in some instances a zero morpheme is present (e.g., perhaps in the case of Hindi differential subject and/or object marking – Keine and Müller (2008: 99–108); this however requires argument (not provided in Keine and Müller 2008).[18] In such circumstances, it does seem plausible to regard the oppositions as homologous. However, it is not so obvious for optional marking vs. contrastive marking. In the case of optional marking no attentional meaning is actually coded in the morphemes in question, whereas for contrastive marking it will presumably be coded by one of them.

The optimality of optionality is a type of paradigmatic optionality: it concerns the nature of entities in paradigmatic contrast. Effectively, if the paradigmatic system expresses attentional meaning, it is optimal to deploy a single form. A paradigm with two overt forms, that is, is not optimal. This can be seen as the paradigmatic correlate to the syntagmatic optimality of the "avoidance of double

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18 The corresponding thing in our siren model would be the assumption of a zero siren, which would appear to be difficult to motivate – and at least as problematic as Haas's zero uniforms.

positives" of Du Bois (1987: 216): the avoidance of two overt forms in a syntagm, where these are more or less synonymous. Both of these phenomena, both paradigmatic and syntagmatic optimality, represent means by which languages reduce coding, or functional overkill (Durie 1995). It is surely significant that both concern the attentional resources of language: the example discussed in Du Bois (1987) concerns modes of reference to participants, by an overt NP and/or a cross-referencing bound pronominal.

4.3 Optionality as a subtype of reduction

Jaeger (2006; 2010) propose Zipfian-type explanations for morphosyntactic reduction, which is a somewhat larger and more diverse category than optionality as defined in (2). Morphosyntactic reduction includes omission of morphemes regardless of whether or not there is an effect on the construction. Thus all or most of the phenomena excluded from the category of optional in Section 2.1 would count as instances of morphosyntactic reduction. It also includes other reductions in the "size" of the expression substance such as segmental and suprasegmental reductions.

The explanation advocated in Jaeger (2006) provides a stochastic information-theoretic foundation for the optimality of optionality (see previous subsection). What Jaeger (2006: 3–6) suggests is that morphosyntactic reduction can be accounted for by the Probabilistic Reduction Hypothesis (PRH): form reduction, where permitted grammatically, is more likely if the information conveyed by the omitted item is redundant. Thus, the presence or absence of the form at issue correlates inversely with the degree of expectedness of what is marked by the omitted item. For instance, in regard to object complements, the presence/absence of *that* correlates inversely with the degree of expectedness of the complement clause. In turn the degree of expectedness of the marked element is directly correlated with highlighting and backgrounding. Other things being equal, the less expected this element is, the more likely it is that a speaker would highlight it, drawing attention to it; the more expected it is the more likely a speaker would background it, diverting attention away from it. Thus the PRH provides a foundation for the theory of optionality proposed in Section 2.2, which can be seen as a grammaticalization of the PRH.

Two observations are pertinent at this point. First, what has been revealed by the discussion of Section 3 is that other things are not always equal, and information is not the only consideration relevant to usage or non-usage of a form. At least as important is the place of that information in the discourse. As I see it, this expansion from information quantity to information value is a consequence of the grammaticalization and codification of morphosyntactic reduction into

optionality; the PRH nevertheless remains a foundation for optionality. What has happened is that what was a statistical correlation has become an invariant association between abstract forms (usage or non-usage) and meanings, and along with this the nature of what is involved in the association has been adjusted. This is necessary since no linguistic sign links directly to a piece of reality, linguistic or non-linguistic. The very nature of language as a semiotic system is that speakers construe the reality they code; they are not forced by reality to use any particular form. Information value as such is not the only consideration, and exceptions to the PRH can be accounted for by the theory of Section 2.2. For other types of morphosyntactic reduction no such invariant connection obtains with highlighting or backgrounding.

Second, the formulation of the PRH is one-sided: there is an in-built presumption that reduction is what is involved in cases where an element may be present or absent. The discussion of Section 2.2 and Section 3 shows that this is not necessarily so. We need to tease out two possibilities, reduction and expansion: the fuller form is not necessarily the basis for the reduction of the less full form; it may equally be an expansion of the less full form. Thus I suggest that there should be two components to the PRH, one linking absence with expectedness (the Probabilistic Absence Hypothesis), the other linking presence with unexpectedness (the Probabilistic Presence Hypothesis). These two may be dissociated: absence may go with expectedness, while presence shows no particular association with unexpectedness; on the other hand, presence may go with unexpectedness, while absence shows no particular association with expectedness. In general, the expectation is that if absence is the norm for an element (as is the case for the *that* complementizer in casual conversation), expansion is involved in its presence, not reduction in its absence. If presence is the norm for an element (as for the *that* complementizer in academic writing), absence (reduction) is involved.

To wind up the section, let us consider the observation of Jaeger (2006: 165) that the PRH is a hypothesis about the relation of syntactic production and reduction, not about the organization of grammar. While I agree with this, what I have shown in this paper is that if we restrict attention to a particular subtype of morphosyntactic reduction, namely optionality, then it emerges that the phenomenon can become a part of the organization of grammar.

4.4 Joint attention

The most obvious ways of establishing joint attention are by use of indexes such as pointing and eye gaze (Tomasello and Farrar 1986; Tomasello 2003):

"Declarative pointing (and showing) may ... be the purest expression of the uniquely social-cognitive motivation to share attention with others" (Tomasello 2003: 34). Another way of establishing joint attention is by use of a thing: acting on an object serves to bring it into relief against the backdrop of other things in its context. This is obvious for physical objects, where one's manipulation of say a book is likely to draw another person's attention to it. Similarly for signs: their use is one way of drawing attention to them, and thus to their signifieds and/or referents. These examples illustrate the uniquely human propensity of acting on others by acting on objects, including signs (Godsen 2003: 90). Alternatively, as Tomasello (2003: 12) puts it, "Linguistic symbols are not used dyadically to regulate social interactions directly, but rather they are used in utterances *referentially* (triadically) to direct the attentional and mental states of others to outside entities".

Optionality and indexes thus share something in common functionally, in the domain of attention manipulation. A nice illustration is provided by the so-called Bowped booklet (Bowerman and Pederson n.d.), which consists of a set of line drawings of entities in various spatial configurations. In the original booklet the entity to be located (the figure) is highlighted in yellow (as in Fig. 1). The electronic version of the booklet, however, uses an arrow pointing to the figure. Both highlighting and the arrow – which correspond respectively to optionality as a modification/manipulation of the target entity and indexicality – are means of drawing attention to the figure, singling it out with respect to the ground.

There are differences between the two strategies of manipulating attention in terms of what they can do and how they can be used. First, optionality permits not just drawing attention to something (via use of some form), but also backgrounding something (via non-use), taking attention away from something, thus shifting it out of the joint attentional frame. Indexes cannot be used in the latter way, and can only draw attention away from something indirectly as a consequence of indexing something else. Second, as far as I am aware, indexes in language are not used to draw attention to other indexes, including markers of grammatical relations.[19] Optionality comes to the rescue here, permitting attention to be drawn to a wider range of phenomena.

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19 That is, in non-metalinguistic usage of language. Indexes can of course single out linguistic indexes in metalinguistic contexts.

5 Conclusions

One of the major points of this paper is that there is a need for more circumspection and precision in use of the term *optional* in grammar. The term has – like the term *zero* – been used carelessly in a wide range of ways, in reference to a disparate range of phenomena that share nothing significant in common, and which should not be conflated. We cannot continue to use the term in a pre-theoretical, almost random, way. Moreover, questions of motivation need to be addressed seriously; it is time to move beyond the obvious and approved explanations. What is needed is more data, as well as more ideas.

Some explicit proposals have been made for restricting the notion of optionality so as to group together a coherent and natural class of phenomena. Within this domain, there are restrictions on the meanings that may be coded by the two things in paradigmatic contrast: use vs. non-use of the optional element. It has been proposed that the meaning will always concern joint attention; specifically use relates to prominence, non-use to backgrounding. Usage of an optional element is analogous with highlighting of words on a written page, non-usage with greying the letters, putting them in fine print, or, on a website, concealing a user's agreement (which may be optionally revealed by following a hypertext link). The associated meanings are "natural", not arbitrary. Where arbitrariness comes into the picture is in the specific contextualizations of the general meanings, which are language and construction dependent. For instance, although the optionality of the ergative marker in Gooniyandi and Warrwa is in the broad terms of this paper associated with the same configuration of values, there are differences in how these configurations are manifested in general and in particular instances of use.

Not all is natural in a straightforward and obvious fashion, however. Non-use of a linguistic unit can convey more specific or positive information than use, as in cases in which use conveys nothing, and non-use backgrounds. But even here things can be interpreted in a motivated way: in terms of results, greying something is in an obvious scalar sense "less than" doing nothing to it. The meaning conveyed, that is, can be ranked below the paradigmatically contrasting non-specific meaning.

Admittedly I have explored optionality in a small range of grammatical circumstances and languages, and the investigation needs to be expanded on both dimensions. Part of the problem is, as mentioned above, lack of data; few grammars provide information on optionality beyond the statement "(usually, sometimes) optional". Few modern comprehensive grammars grapple with optionality in the context of usage. Hill (2005) and Brotchie (2009) are notable exceptions: these grammars examine correlations between optionality and discourse structure. I have suggested that such correlations will never be better than probabilistic.

What is required is a semiotic approach, which goes beyond mere correlations, and seeks inalienable associations. These identify coded meanings. This takes us up a level of generality, and implies recognition of a distinction between coded and inferred meanings, even if the border is somewhat fuzzy.

One implication of this investigation is that the semantic-pragmatic boundary cannot be identified with the contrast between system and use as it commonly is. Contra Newmeyer (2003), grammar is not just grammar, and usage is not just usage. Usage can be not just systematic (which is not particularly surprising), but also can code meanings. This is a rather stronger proposal than is usually made for usage based grammars. The interaction between grammar and usage is often conceptualized on the diachronic dimension: yesterday's usage is today's grammar, challenging a rigid division between diachrony and synchrony. In an extreme construal (e.g., Hopper 1987), grammar never really gets there; it is emergent, and a crystallization of usage. Most practitioners, however, accept the existence of grammatical systems in languages, and propose that grammatical knowledge includes knowledge of usage patterns, such as frequency-related characteristics of grammatical patterns (see e.g., Schmid 2013). My proposal goes somewhat deeper than the mere incorporation of frequency patterns into grammar: usage can form a grammatical system, comprising elements in paradigmatic opposition and coding semantic meanings.

Finally, the proposals of this paper raise numerous issues for further investigation. I briefly mention four that I consider most significant. First, there are analytical questions. It is not always obvious whether structure is preserved or not; and ultimately (as admitted above) this cannot be decided atheoretically. It might also be that structure is preserved on one level, but not on another; for instance, at clause level, but not phrase level. What are the consequences? Second is the question of where optionality is available in a language. Can we formulate viable cross-linguistic generalizations concerning the environments where optionality occurs and doesn't occur? Third is a diachronic question: how does optionality arise and grammaticalize in a language? Do grammatical systems of optionality always have their origins in pragmatic systems – i.e., (4) in the tables of Section 3? Or could optionality emerge from a system of contrastive marking involving a zero that ultimately becomes nothing? Finally, are there cognitive correlates of optionality? Although psycholinguistic and neurolinguistic investigations of various aspects of empty elements have been undertaken, I am aware of none that address optionality in the sense of this paper.[20] Are there pro-

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20 Despite its title, Boyd 2007 is not a psycholinguistic investigation of optionality, but rather of contrastive marking phenomena (see Section 4.2 above).

cessing differences in use and non-use? Is non-use more difficult to process than use, and more likely to disappear in aphasia or other syndromes? Does the psycholinguistic or neurolinguistic evidence favor any particular theory of optionality?

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