Chapter 11
Information structure[*]

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1 Introduction

The study of INFORMATION STRUCTURE in Mayan has proceeded in tandem with the study of morphology and syntax. This is hardly surprising, given the range of morphosyntactic devices that are harnessed by the various languages to encode information structure relations. Such devices include word order, voice, and agreement, as well as specialized syntactic constructions and morphology. A sensitivity to the status of elements in the 'flow' of information has thus been an unavoidable correlate of basic grammatical description. Our goal here is to survey the present understanding of information structure in Mayan and to identify some major gaps in what we know.

'Information' refers to what we learn about individuals and situations. The status of a fact with respect to informativity is inherently dynamic: what is 'new' information at one moment is likely to be 'old' information in the next. Factors which play a role in how informativity determines linguistic form include the distinction between 'given' and 'new' discourse referents, the identification of the individual about whom information is provided (the 'topic'), and the identification of that information in a message which is new (the 'focus') (Krifka, 2008). The discussion that follows will therefore be organized around these three notions and their complements:

(1)   a. GIVEN (DISCOURSE REFERENTS) vs. NEW (DISCOURSE REFERENTS)
       b. FOCUS vs. BACKGROUND
       c. TOPIC vs. COMMENT

The information structural status of an element at a particular point in time is determined against the background of the current DISCOURSE CONTEXT. Following many others, I take the discourse context to include the discourse participants, minimally the speaker and the addressees, as well as what is called the COMMON GROUND (CG). The CG is the set of propositions which the discourse participants have agreed to mutually

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accept. These propositions can be taken for granted as the discourse moves forward, they are 'presupposed'. The CG also contains a set of 'given' discourse referents, those referents who have already been introduced into the discourse, or who are known to be familiar to speaker and addressee. Some of these referents are more salient than others, e.g., by virtue of recency of mention or for some inherent reason.

I assume that the goal of discourse is 'to discover the way things are', to update the CG, typically by adding propositions to the CG. Questions, both explicit and implicit, play a key role in determining the direction in which the CG develops. An assertion which is proffered by the speaker and accepted by the addressee updates the CG.

Sections 2–5 discuss what is currently known about information structure in Mayan. We start in §2 with Du Bois' important work on the encoding of given and new discourse referents and with recent refinements to his account. Section 3 briefly surveys early approaches to the study of topic and focus in Mayan. Section 4 establishes pragmatic and morphosyntactic properties of various focus constructions in Mayan, distinguishing information focus from contrastive focus. In §5, two distinct topic constructions (internal and external) are identified on structural grounds; pragmatic differences are shown to correlate with their syntactic differences.

2   Given vs. New

Du Bois (1987) showed that there is a significant correlation between the GIVENNESS status of discourse referents (GIVEN vs. NEW) and grammatical function. Based on a corpus of unplanned speech in Sakapultek (Mayan), he proposed that new discourse referents are introduced as O or S (also as oblique), while A is reserved for reference to discourse referents which are already part of the discourse context, i.e., are GIVEN. This is the theory of PREFERRED ARGUMENT STRUCTURE. In the common situation then where the speaker wishes to refer to a new discourse referent as agent, she is likely to first introduce that referent as S of an intransitive verb, often one which is low in semantic content, e.g, an existential or a verb of motion, followed by a transitive clause in which the referent functions as A.[1]

(2)   Sakapultek

    a.   *X-aq'an   jun achenh ... chu' ch'ee',*
        CP-ascend a   man   atop tree

        'A man climbed up a tree,'

    b.   *x-a-r-...-ch'up-o'   nik'yaj peeras.*
        CP-MVT-A3...-pick-MVT some   pears

        'he went and picked some pears.' (Du Bois 1987: 813)

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[1]The orthography has been changed in some examples to conform with current standards. Glosses and translations have generally been retained from the original source.

Table 11.1 shows the distribution of new and non-new mentions for each of the three core argument positions in Du Bois' corpus.

	New	Non-new	Total	% New
A	6	181	187	3.2
s+o	100	328	428	23.3

Table 11.1: Distribution of new vs. non-new in Sakapultek

Thus, while S + O are associated with both new and non-new mentions, A is associated almost exclusively with non-new mentions. England and Martin (2003) present similar statistics for four further Mayan languages (Mam, Mocho, Tektiteko, and Q'anjob'al). Based on the Sakalpultek data, Du Bois proposes a constraint he calls 'Avoid New A'.

Although Du Bois does not distinguish *types* of intransitive verbs in his statistics, his discussion (p. 836) distinguishes intransitive verbs whose use is *pragmatically* motivated (by virtue of the capacity to introduce a new discourse referent as S) from ones whose use is *semantically* motivated (by virtue of semantic content). He does not flesh out this distinction, but does say that it is different from the intransitive split associated with volitionality and control (Mithun, 1991). However, in recent work on Tsotsil and Chol, Martínez (2012) and Vázquez and Zavala (2013) have argued, in essence, that this split in discourse function *is* sensitive to agentivity. Distinguishing agentive subjects (S_A) from non-agentive ones (S_O), their proposal is that new discourse referents are introduced as O and S_O, with A and S_A functions restricted to discourse referents already in the cg, i.e. given.[2]

Table 11.2, constructed from data in Vázquez and Zavala (2013), shows the distribution of new and given mentions for the Chol corpus.[3] It is directly comparable to the Sakapultek data in Table 11.1 and the ratio of new to given mentions is similar.

	New	Non-new	Total	% New
A	17	640	657	2.6
s+o	454	2087	2541	17.0

Table 11.2: Distribution of new vs. non-new in Chol

However, Vázquez and Zavala (2013) tease the category S+O apart into three relations: S_A, S_O, and O.[4] When these relations are distinguished, a different picture emerges:

[2]Cf. Durie (1988, 2003) for similar claims about Achenese.

[3]Vázquez and Zavala (2013) do not give the data iin the form shown in Tables 11.2 and 11.3. These were constructed from the data they provide in their Table 5 (lexical new mentions) and Table 6 (all mentions). Any errors of interpretation are mine.

[4]Chol distinguishes these two relations in the morphosyntax, requiring use of a light verb to express subjects of agentive intransitives (Gutiérrez Sánchez, 2004; Coon, 2013; Vázquez and Zavala, 2013); see also Zavala Maldonado, this volume, on alignment.

	New	*Non-new*	*Total*	*% New*
A	17	640	657	2.6
S$_A$	3	100	103	2.9
S$_O$	271	1465	1736	15.6
O	180	522	702	26
OBLIQUE	173	261	434	40

Table 11.3: Distribution of new vs. non-new in Chol

The distribution of non-new and new for A is close in the two languages (new referents account for only about 3% of A's in both), but the profiles of S$_A$ and S$_O$ are quite different. The percentage of new S$_A$ is almost identical to that of A, with both relations almost exclusively reserved for given discourse referents. New discourse referents are introduced much more frequently in other grammatical relations: S$_O$, O, and Oblique.

It is reasonable to ask whether the distinct roles that S$_A$ and S$_O$ play in Chol information structure is related to the fact that the two relations are also distinguished morphosyntactically (see fn. 4 and references). More work on a wider range of languages is needed to be certain, but the fact that Tsotsil shows a similar split between S$_A$ and S$_O$ ut does not distinguish them in the morphosyntax (Martínez 2012) suggests that the theory of Preferred Argument Structure needs to make a more fine-grained distinction between types of intransitive S.

The packaging of old and new discourse referents in Mayan has repercussions elsewhere in the grammars of these languages, especially in the choice of voice and in the morphosyntax of focus. The connection to voice is clear: the dispreference for new A's means that active transitive clauses will be avoided when A is indefinite; some alternative mode of expression, e.g., passive, will be used instead. Such a constraint has been observed in various languages (see England 1991).

Further, in the partition of a sentence into topic-comment and focus-background, A and O each have default information structure statuses: the default status of A is as topic (not focus); the default status of O is as part of the comment, hence not topic but possibly focus.

(3)   A$_{Topic}$ [. . . O . . .]$_{Comment}$

These considerations probably motivate the existence in many Mayan languages of special morphosyntactic apparatus when A is focus (see §4.4.1 below).

3   Previous work on topic and focus

Since at least the 1970's, observations concerning the grammatical encoding of topic and focus in Mayan are found in the literature, primarilly as part of larger descriptions. In

addition, there have been at least two large-scale studies devoted to information structure in particular Mayan languages, Datz (1980) on Jakaltek and Brody (1982) on Tojolab'al.

Early work on topic and focus was couched in terms of word order, conceived as a linear ordering of S, O, and V. Durbin and Ojeda (1978), for example, observe that all six orders of the three elements are possible in Yucatec Maya, but that different orders are associated with different discourse functions of S and O (some orders are also subject to morphological restrictions). They note, for example, that APV (SOV) requires that the first NP be [+specific] and that the second (if determinerless) be focused:

(4) Yucatec

le-wíinik=o'   h-chakmo'ol k-u-kíins-ik.
DET-man=ENC CLF-jaguar   ICP-A3-kill-SS

'That man kills jaguars (not other animals).' (Durbin and Ojeda 1978: 72)

A similar approach is taken in Dayley (1985, p. 304) for Tz'utujil, where it is reported that five of the six orders are possible. Again, different orders are associated with particular discourse functions of S and O and some are subject to morphological restrictions.

Initial steps towards a more syntactically articulated proposal were taken in Norman (1977), whch proposed that *topics* occupied sentence-initial position, while *foci* occurred preverbally. These two 'positions' are linearly indistinguishable when only a single constituent precedes the verb, but may be distinguished in the presence of other elements, e.g., negation. This approach was further developed in Aissen (1992) and grounded in a theory of phrase structure that recognized various levels of clausal structure (see §5.2 below). This analysis identified three distinct positions for topic and focus: one for (preverbal) focus and two for (preverbal) topic. The distinctions between these structural positions and their associated pragmatic differences are discussed in §5.2-§5.3.

A methodological note: since *topic* and *focus* are information structure relations, verifying that a linguistic element in an utterance is *topic* or *focus* requires access to the context in what utterance occurs. Therefore, whenever possible, exampes given below are cited along with the relevant discourse context. In the absence of context, e.g., in (4) from Yucatec, we are forced to rely on translations which approximate the pragmatic sense of the original.

4   Focus

4.1   New information focus

The notion of 'focus' is usually introduced through question and answer pairs. In the Tsotsil dialogue in (5), the FOCUS is that element in the answer which corresponds to the interrogative expression in the question, namely *Muk'ta Jok* (the focused element is

indicated by F (subscript); the corresponding material in the English translation is shown in small caps).

(5) Tsotsil

    a. *Bu   l-a-'ay?*
       where CP-B2-go
       'Where did you go?'

    b. *L-i-'ay   ta Muk'ta Jok$_F$.*
       CP-B1-go to Muk'ta Jok
       'I went to MUK'TA JOK'.' (Laughlin 1977: 118)

The remainder of the answer corresponds to what is presupposed in the question (*you went somewhere*) and is the BACKGROUND. The focus in the answer to a simple information question is variously called *information focus, new information focus, rheme* and *non-contrastive focus.* The information focus in (5b) remains in situ, i.e, it occurs in the same position as a corresponding non-focused constituent. The dialogue in (6) (between a child and parent) shows that the same is true for an argument focus.

(6) Tsotsil

    Q: *K'usi ta   j-lajes ta ch'ivit tana?*
       what ICP A1-eat in market now
       'What am I going to eat in the market?'

    A: *Ta j-lo'-tik   manko$_F$, ta j-ti'-tik   ch'ich'$_F$.*
       ICP A1-eat-1PL.INCL mango   ICP A1-eat-1PL.INCL blood
       'We'll eat MANGO, we'll eat [boiled] BLOOD.' {TEXT}

    New information focus has not been much discussed in the Mayan literature, probably because it does not involve any syntactic or morphological changes (nor has a role for intonational marking been identified in most of the languages, either for new information focus or contrastive focus, see below, §4.5). However recent work of Velleman (2014) and Verhoeven and Skopeteas (2015) has identified a constraint on in situ focus which had not been previously known. They argue that in Yucatec and K'ichee', the subject of a transitive clause (A) which remains *in situ* cannot be felicitously interpreted as new information focus. In K'ichee', for example, Velleman (p. 186) cites the contrast between an in situ O (7), and an in situ A (8) (# indicates infelicity).

(7)   a. What does María want to eat?

       b. *Aree k-u-tij   le ichaj$_F$ le al Mari'y.*
          FOC ICP-A3SG-eat DET vegetable DET CLF María
          'María will eat THE VEGETABLES.'

(8)   a. Who is going to eat the vegetables?

b. # *Aree k-u-tij   le   ichaj   le   al   Mari'y_F.*
       FOC ICP-A3SG-eat DET vegetable DET CLF María

   Intended: 'MARÍA will eat the vegetables.'

One might think that this contrast follows from DuBois's 'Avoid New A' constraint (§2). But it does not. DuBois's constraint concerns the realization of new *discourse referents*, not new *information*. What is new in an 'information focus' is not the discourse referent itself, but the relation of the discourse referent to a proposition. For example, in the interchange, 'who left?', 'John left', *John* is new information focus, but need not refer to a new discourse referent. Further, the constraint on an in situ information focus A is not as general as the 'Avoid New A' constraint. While all Mayan languages are probably subject to some version of 'Avoid New A', only some restrict a new information focus A. For example, Tseltal does not (see discussion in §4.4.1 below, especially (40b)). Velleman (2014) argues that the constraint on an in situ information focus A is in fact found only in those languages which require special agent focus morphology for *moved* foci. We will return to this question in §4.4.1 after discussing contrastive focus and agent focus morphology.

4.2 Contrastive focus pragmatics

What *has* been discussed a great deal in the Mayan literature is CONTRASTIVE focus, as this *does* involve special morphology and syntax. Consider for example, the exchange in (9) from Tsotsil:

(9)   a. Q: "What are you doing?"

      b. *A: "Ta j-tz'un,   ta   j-tz'un   ton, ta   j-tz'un   te'."*
             ICP A1-PLANT ICP A1-plant rock ICP A1-plant tree

             'I'm planting, I'm planting rocks, I'm planting trees.'

      c. Narrator:

         Pero chobtik_F tz-tz'un   un.
         pero corn   ICP.A3-plant PAR

         'But it was CORN that he was planting.' (Laughlin 1977: 334)

The first two clauses (9a,b) report a dialogue, followed in (9c) by the narrator's comment. In (9c), *chobtik* 'corn' is focused and occurs not in the canonical post-verbal position but before the verb. (I assume for now that the focus moves to its surface position, but discuss an alternative analysis in §4.3.3.)

An important question is why focus would move when it can remain *in situ*. Work on a range of languages has observed that a moved ('ex situ') focus is often explicitly contrastive in a way that an unmoved focus is not (Kiss, 1998; Vallduví and Vilkuna, 1998; Hartmann and Zimmermann, 2007). This has also been noted for many Mayan languages, including Tz'utujil (Dayley 1985: 324-5), Q'eqchi' (Berinstein 1985: 93), K'ichee' (López Ixcoy

1997: 380), Yucatec Maya (Gutiérrez-Bravo and Monforte 2011; Gutiérrez Bravo 2015), and Tseltal (Polian 2013: 774) In (9c), *chobtik* 'corn' contrasts with *ton* 'rock, stone' and *te'* 'tree' in the previous utterance, (9b). Not only does the narrator assert that he was planting corn, but, at the same time, he rejects the assertions of the immediately preceding assertions, *he was planting rocks, he was planting trees.*

To make sense of this, I will assume, following Rooth (1992), that the interpretation of a sentence S which contains a focus F involves reference to a set of ALTERNATIVE propositions that differ from S only in the value of F. For (6), that set of alternatives might include *we'll eat tortillas, we'll eat meat,*, etc., as well as the proffered answer, *we'll eat mango, we'll eat [boiled] blood.* See AnderBois (this volume) for further discussion of alternative sets.

In answers to non-contrastive wh-questions, the other members of this alternative set are not evoked, cf. (5), (6). In answering, the speaker simply offers a proposition as true. However in (9b), the alternative propositions are made explicit and (9c) not only offers an alternative as true (*they planted corn*), it also rejects all of the earlier alternatives, (*they planted stones, they planted trees*). It is the contrastive nature of the focus in (9c) that licenses its preverbal position.

Different contexts give rise to specific types of contrastive focus readings (so-called 'selective', 'corrective', 'exhaustive', etc., see Dik et al. (1981) for an overview). (10) illustrates one more context which licenses preverbal focus in Tsotsil – the unexpectedness of the focus (for a similar observation in Tseltal, see Polian 2013:777).

(10)   a.   Something had landed at the foot of the tree. They went to look. There was a straw mat. Something was rolled up inside the straw mat. "Hell, what could it be? Let's go, let's untie the straw mat," the two men said to each other. They untied it. You know what –

   b.   *Tseb san-antrex$_F$ la te   s-ta-ik   un.*
        girl san-andrés CL there A3-find-PL PAR

        'It was A SAN ANDRÉS GIRL that they found there.' (Laughlin 1977: 69)

(10b) provides the answer to an explicit question (*hell, what could it be?*). In this case, no alternative has been made explicit, but because the value of the focus (girl from San Andrés) is *unexpected*, (10b) nonetheless has a marked relation to the set of focus-evoked alternatives. We can understand 'unexpectedness' in terms of the set of alternatives that focus evokes: assuming that this set includes only *culturally appropriate alternative propositions*, a proposition with an unexpected focus, like (10b) would not be a member of that set.

4.3   Contrastive focus constructions

The term 'contrastive focus' is used here in a pragmatic sense, not a syntactic one, i.e., it refers to a particular relation to the discourse, not to any particular syntactic position or

construction.

There are various syntactic constructions that can be used to express contrastive focus in Mayan: the FOCUS can be structured as a non-verbal predicate with the BACKGROUND presented in a headless relative which functions as its subject; (§4.3.1); it can remain *in situ* and be flagged by a clause-initial focus particle (§4.3.2). It can also be realized in preverbal position, as in the Tsotsil examples (9)–(10). The structure of such examples is discussed in §4.3.3; I will conclude that at least some foci move to their surface position.

In many Mayan languages, focus constructions involve a functional element which also functions in the language as a demonstrative and/or a copula. One of the difficulties in analyzing the syntax of focus in Mayan lies in distinguishing these various functions. Where the analysis of this multi-functional element is at issue, I will refer to it (and gloss it) simply as 'F'.

4.3.1 Focus-as-predicate

The focus can function as (non-verbal) predicate of its own clause, taking a headless relative clause as subject. Examples from several languages are shown in (11)-(13).

(11) Yucatec

Tèech$_F$ [le   k=u   bin tak   Yaxley=o'].
2.SG   DET IPFV=A3 go as.far.as Yaxley=ENC

'YOU are the one that is going up to Yaxley.' (Verhoeven and Skopeteas, 2015)

(lit: 'the (one who is) going up to Yaxley is YOU')

(12) Tseltal

Tsa'-tuluk'$_F$ [te   ya   a-lo']   cabrón.
shit-turkey   DET ICP A2-eat bastard

'It's TURKEY SHIT that you're eating, asshole.' (Polian 2013: 776)

(lit: 'that (which) you're eating is TURKEY SHIT')

(13) K'ichee'

Aree la'$_F$ [le   x-in-kowin-ik   x-in-b'i-ij].
COP DEM DET CP-B1SG-be.able-SS CP-A1SG-say-SS

'THAT's what I could say.' (Velleman 2014: 116)

(lit: 'that (which) I could say is THAT')

The headless relative presents the presupposed BACKGROUND against which the FOCUS is new information. Thus, (11) presupposes that there is someone going up to Yaxley and

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asserts that that individual is the addressee; (12) presupposes that there is something you are eating and asserts that it is turkey shit, etc. These examples exhibit the usual PREDICATE–SUBJECT order in Mayan. They differ from typical intransitive verbal clauses only in that the predicate is non-verbal and the subject is not headed by a noun. It is clear though from the presence of the determiners and complementizers that the post-focal material is nominal and functions as subject. The construction is thus built out of familiar pieces and therefore does not constitute a special 'focus construction'. Note that in some cases, the focus is 'supported' by an instance of F which I assume functions as copula here, e.g. (13) (see below for further discussion).

4.3.2 In situ focus with focus particle

In several languages, including at least Tsotsil, Tseltal, and Tojolab'al, a contrastive focus can remain in situ and be flagged by F. In all three languages, F has the form *ja'*.[5]

The key feature of (14)–(17) is that the contrastive focus is in its base position and separated from F (= *ja'*). Context is provided, where available, to make clear that we are indeed dealing with *contrastive* focus.

(14) Tsotsil

    a. Context: He hadn't worked at all –

    b. *ja' i-'abtej taj antz$_F$ un=e.*
        FOC CP-work DEM woman PAR=ENC

        'it was THAT WOMAN who worked.' (Laughlin 1977: 390)

(15) Tsotsil

    a. Context: They (the Zinacantecos) didn't win.

    b. *Ja' i-kuch   yu'un i   soktometik.*
        FOC CP-prevail by   DET Chiapanecos

        'It was THE CHIAPANECOS that won.' (Laughlin 1977: 358)

(16) Tseltal

    Ja'=me ya x-chon te   k'ankujk'=e$_F$.
    FOC=CL ICP A3-sell DET Cancuc-ENC

    'It was THE CANCUQUEROS who sold it.' (Polian 2013: 773)

(17) Tojolab'al

    Ja' y-a'-a–y-i'   tak'in ja=j-tat=i$_F$.
    FOC A3-give-SS-A3-DAT money DET=A1-father=ENC.

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[5]*ja'* functions also as a copula (see below) and as a demonstrative. Polian (2013) speculates that the original function of *ja'* was demonstrative, and that it developed later into a focus marker.

'It was MY FATHER to whom he gave the money.'

also 'It was MONEY that he gave my father.' (Curiel, this volume)

It is clear from the word order that the focus is not the predicate and therefore that F does not function here as a copula. I assume it is a focus marker (FOC).

Note that when the focus remains in situ, the FOCUS and BACKGROUND are not structurally partitioned in surface structure. This distinguishes this construction from other contrastive focus constructions. A related fact is that the 'scope' of the focus particle in this construction is ambiguous. In (18), either the subject or the object can be interpreted as focus; the same is true in Tseltal, (Polian 2013: 774) and in Tojolab'al (see 17).

(18) Tsotsil

Ja' i-s-mil Antun li Xun-e.
FOC CP-A3-kill Antonio DET Juan-ENC

'It was JUAN who killed Antonio.' *or* 'It was ANTONIO who Juan killed.' (Haviland 1981: 244)

4.3.3 Moved focus

Let us return now to examples like Tsotsil (9)-(10) with a preverbal NP focus. These are the ones most frequently discussed in the Mayan literature. (10) is repeated below as (19) along with examples from several other languages.

(19) Tsotsil

Tseb san-antrex$_F$ la te s-ta-ik un.
girl san-andrés CL there A3-find-PL PAR

'It was A SAN ANDRÉS GIRL that they found there.' (Laughlin 1977: 69)

(20) Yucatec

Tèech k=a bin tak Yaxley.
2.SG IPFV=A2 go as.far.as Yaxley

'YOU are going up to Yaxley.' (Verhoeven and Skopeteas, 2015)

(21) Tseltal

J-yame'$_F$ la x-chi'ites-on, j-mam$_F$ la x-ch'ites=on awil.
A1-grandmother CP A3-raise-B1SG A1-grandfather CP A3-raise-B1SG EVID

'It was MY GRANDMOTHER who raised me, it was MY GRANDFATHER who raised me.' (Polian 2013: 776)

I assumed earlier that these are derived by movement (as in Aissen 1992). In the movement analysis, these examples involve a single clause, with the focus moving from its base position to a position high in the clause. However, a different analysis has often been assumed in passing and is explicitly argued for in Tonhauser (2003). This alternative takes examples like (19)-(21) to be instances of the focus-as-predicate construction (§4.3.1). Unlike the examples seen earlier, the purported headless relative carries no apparatus (i.e. determiners, complementizers) that identify it as a nominal or as a subordinate clause. The two alternative structures are shown schematically in Figure 11.1.

Focus-as-predicate analysis

            Predicate   Subject

        tseb san=antrex Op_i *te istaik* t_i
        'San Andrés girl'   '[what] they found there'

Movement analysis

             Focus   Clause

       tseb san=antrex$_i$ *te istaik* t_i
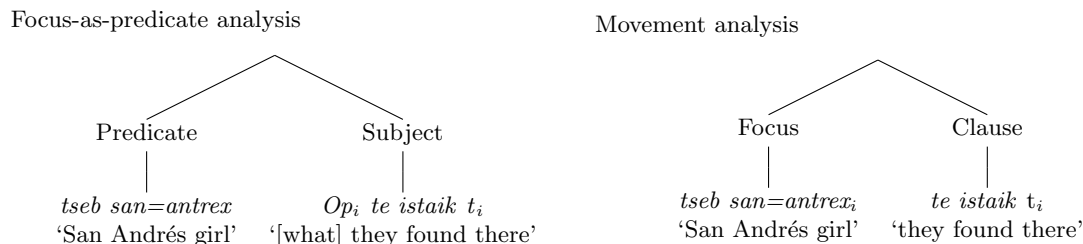   'San Andrés girl'   'they found there'

Figure 11.1: Alternative analyses for preverbal focus

One difference between the two analyses concerns the relation between the focus and the following clause. In the right-hand structure, the focus originates in the following clause and moves to its surface position (as represented by the indices, t marks the position from which the focus moves). In the left-hand structure, the focus is never part of the following clause. Rather it is linked semantically to a (covert) operator which moves as part of the syntax of the relative clause (this movement accounts for various morphosyntactic effects related to movement, e.g. agent focus morphology.)

Two problems have been noted for the left-hand focus-as-predicate analysis. First, the posited headless relative subject does not *look like* a nominal, as it carries none of the trappings of a nominal constituent, i.e. no determiner or complementizer. Rather, the post-focal constituents in (19)–(21) look clausal, as expected under the alternative movement analysis. The key question is whether a clause – with no determiner or complementizer – can function as a nominal argument in syntactic contexts outside of focus. Velleman (2014) argues in connection with K'ichee' that it cannot, and concludes that the predicate-as-focus analysis is not correct. This question needs careful examination in the various languages.

Further, in an experimental study of focus constructions in Yucatec, Verhoeven and Skopeteas (2015) compared agreement in examples like (22a,b). (22a) is clearly the focus-as-predicate construction, with a headless relative as subject. At issue is the analysis of (22b) where the post-focal material is 'bare', lacking a determiner or subordinator.

(22) a. *Tèech*$_F$ *[le   k=u   bin tak   Yaxley=o'].*
          2SG   DET IPFV=A3 go as.far.as Yaxley=ENC

'YOU are the one that is going up to Yaxley. (lit: the one who is going up to Yaxley is you)

b. *Tèech_F [k=a   bin tak   Yaxley].*
   2SG   IPFV=A2 go as.far.as Yaxley

   YOU are going up to Yaxley.

In both, the focus is a 2nd person pronoun which corresponds to subject of the post-focal clause, but the agreement facts are different. In (22b), agreement on the verb must match the focus in person (2nd person), while in (22a), it need not (it shows 3rd person agreement).[6] Verhoeven and Skopeteas (2015) conclude that the preverbal focus in the bare construction originates within the following clause, where it determines agreement, and moves to its surface position. In (22a), on the other hand, agreement is not with the focus (which is the predicate of its clause), but with the covert operator that can be 3rd person. Velleman (2014:109ff) makes a similar argument for K'ichee.

Nonetheless, there are also compelling reasons related to the realization of NP and DP foci to think that the focus-as-predicate analysis may be correct for nominal foci. In a number of languages, an NP focus requires no special 'support', while a DP focus (a focused nominal with determiner) does. In Tsotsil, for example, NP focus does not require *ja'*, while DP focus does. Example (23) shows two parallel clauses, one with a DP focus (supported) and one with an NP focus (not supported).

(23) Tsotsil

Ja' [taj chauk]_F   i-'abtej un-e,   chauk_F   i-'abtej.
FOC DET thunderbolt CP-work PAR=ENC thunderbolt CP-work

'It was THAT THUNDERBOLT who [went to] work. THUNDERBOLT worked.' (Laughlin 1977: 405)

Example (24) from Tseltal shows an example of DP focus in context (this example involves elision of the presupposed material).

(24) Tseltal

a. *Mach'a ts'in te   yak   nuts-aw=e?*
   who   then DET PROG chase-AP=ENC

   'Who is the one who is chasing?'

b. *Ja' [te   cheb mamaletik=e.]_F*
   FOC DET two elders=ENC

   'It's THE TWO OLDER MEN.' [i.e. (the ones who are chasing) are the two older men.] (Polian 2013: 454)

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[6]Per Skopeteas and Verhoeven, both 3rd person and 2nd person agreement are possible in (22a), while only matching (2nd person) agreement is possible in (22b).

This restriction on DP foci is mirrored by a restriction on DP *predicates* (where no focus is involved). In all Mayan languages, a NP can be inflected directly with Set B markers and function as predicate, (25).

(25)   a. Tsotsil
           Tzeb-on   to.
           girl-B1SG still

           'I am still a girl.' (i.e. unmarried)

       b. Tseltal
           Winik-at   ix.
           man-B2SG already

           'You were already a man.'

But in many Mayan languages, a DP cannot function as predicate without the 'support' of an additional element which is often identical to the focus marker. In Tsotsil and Tseltal, it is *ja'*, the same element that occurs in focus constructions.

(26)   Tsotsil
       a. *Ja' li   sonso indio-on=e.*
           COP DET foolish Indian-B1SG=ENC

           '[Since] I'm the stupid Indian.' (Laughlin 1977: 38)

       b. * *Li   sonso indio-on=e.*
             DET foolish indian-B1SG=ENC

           ('I am the foolish Indian.')

(27)   Tseltal
       a. *Ja'=me   te   j-chinam-tik=e....*
           COP=CL DET A1-brain-1PL.INCL=ENC

           '[As for white pozol], it is our brain.' (Polian 2013: 452)

       b   * *Te   poxtaywanej-on=e.*
             DET doctor-B1SG=ENC

           not: 'I am the doctor.' (Polian 2013: 449)

Since these examples do not involve focus, *ja'* is not a focus marker here, but a copula. The copula is needed to 'shift' the DP from its canonical function (that of argument) to a non-canonical one (predicate). (Note that clauses with DP predicates are identificational clauses, clauses in which the referents of two DP's are identified.)

Clearly, the restriction on DP foci would follow if NP/DP foci *were* NP/DP predicates. It remains unclear though how to reconcile this with the agreement facts reported for Yucatec (see (22)), facts which favor the movement analysis. In arguing for focus movement,

Verhoeven and Skopeteas address the question why a DP cannot be directly focused in Yucatec. They suggest that DP focus is blocked because the output is mistakeable for a relative clause. However, since structural ambiguity does not generally cause derivations to 'crash', it is unclear why it should do so in this case. A worthwhile first step would be to investigate whether other languages show contrasts in agreement like those documented above for Yucatec.

If nominal foci are best analyzed as predicates, it is important to ask whether *all* clause-initial foci should be analyzed as predicates. The predicate anlaysis is plausible for NP's and DP's because they can function as predicates (the latter usually with the support of a copula). But there are other phrase types which cannot function as predicates but can be preverbal focus. The clearest cases are PP's. In Tsotsil, for example, a PP cannot function as predicate. To predicate a location of some entity, a deictic adverb (*te* 'there' or *li'* 'here') functions as predicate and the PP modifies the adverb, as in (28a). But a PP can function on its own as contrastive focus, (28b):

(28)   a. Tsotsil

        *(Te) ta Soktom i   kampana=e,
        there in Soktom DET BELL=ENC

        'The bells were there in Soktom.' (Laughlin 1977: 100)

    b. *[Ta sba me l-av-ajnil]*_F   *ch-a-muy=e,   mu me ta jol na-uk.*
        on top CL DET-A2-wife ICP-B2-climb=ENC NEG CL on top house-IRR

        'It's ON TOP OF YOUR WIFE that you should climb, not onto the rafters.' (Laughlin 1977: 56)

(The larger context of (28b) shows clearly that we are dealing with contrastive focus.) In K'ichee' too, a PP predicate requires the stage-level copula *k'o* (29a), but can be contrastive focus without it (29b).[7,8]

(29)   a. *Le   nutaat   * (k'o) pa le   ab'iix.*
        DET A1SG-father   COP P DET cornfield

        'My father is in the milpa.'

    b. *La [pa ch'aat]*_F *t'uy-ul wi?*
        Q P bed   sit-POS CL

        'Is it ON THE BED that s/he is seated?' (López Ixcoy 1997: 308)

I conclude then that while preverbal NP and DP foci may be predicates (with headless relative subjects), preverbal PP focus must move to their surface position.

We saw earlier that F can be used as a focus marker in some languages, marking an in situ contrastive focus. It can also mark a moved focus (I cite examples here with PP focus since these are clearly moved):

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[7]Many thanks to Telma Can for discussion of these examples.

[8]In K'ichee', a fronted PP must be 'resumed' by the verbal clitic *wi*.

(30) Tsotsil

    a. the elders came back by horse, as for the soldiers...

      ja' *[ta y-ok]*_F *la* *tal-ik* *un*
      FOC P   A3-foot CL come-PL PAR

      'they came back ON FOOT.' (Laughlin 1977: 62)

    b. My comadre...

      ja' *[ta avyon]*_F *ibat,* ...
      FOC P   airplane CP-go

      'My comadre went BY PLANE [we went BY CAR].' (Laughlin 1980: 91)

Since F does not occur with PP predicates (other elements do), F cannot be a copula here, but must instead be a focus marker. Hence (30a.b) are instances of a hybrid focus construction, one involving both fronting of the focus *and* flagging with a focus marker.

4.3.4 Summary

We have identified three distinct constructions in Mayan for the expression of contrastive focus, plus a fourth hybrid construction:

- focus-as-predicate construction (§4.3.1)

    (31) Tseltal (=12)

      *Tsa'-tuluk'*_F *[te* *ya* *a-lo']* *cabrón.*
      shit-turkey   DET ICP A2-eat bastard

      'It's TURKEY SHIT that you're eating, asshole.' (lit: 'that (which) you're eating is TURKEY SHIT').

- moved focus without focus marker (§4.3.3)

    (32) K'ichee' (=29)

      La *[pa ch'aat]*_F *t'uy-ul* *wi?*
      Q P bed   sit-POS CL

      'Is it ON THE BED that s/he is seated?'

- moved focus with clause-initial focus marker (§4.3.3)

    (33) Tsotsil (= 30b)

      Ja' *[ta avyon]*_F *ibat,* *li* *vo'otik=e* *[ta karo]*_F *l-i-bat-tik*
      FOC P   airplane CP-go DET 1PL.INCL=ENC P car   CP-B1-go-1PL.INCL

'She went BY PLANE, we went BY CAR.'

- in situ focus, with clause-initial focus marker (§4.3.2)

(34) Tojolab'al (=17)

Ja' y-a'-a–y-i' *tak'in ja=j-tat=i$_F$.*
FOC A3-give-SS-A3-DAT money DET=A1-father=ENC.

'It was MY FATHER to whom he gave the money.' *or* 'It was MONEY that he gave my father.'

In his discussion of contrastive focus constructions in Tseltal, Polian (2013, 773ff.) suggests that these constructions are associated with different degrees of contrast, e.g. that the moved focus and focus-as-predicate constructions indicate a greater degree of constrast than does an *in situ* focus (with focus particle). This seems plausible since the 'stronger' constructions are the ones which structurally partition focus and background (cf., English where cleft constructions convey a stronger degree of focal contrast than does intonation alone). It is an interesting question how Polian's suggestion can be verified, and whether it can be verified for other Mayan languages.

4.4   Focus morphosyntax

4.4.1   Agent focus

One of the most studied topics in Mayan grammar is the special morphosyntax associated with focus of the 'agent', i.e. the argument corresponding to the subject of a transitive clause (A). Such morphosyntax is not found in all Mayan languages, but is common in Eastern Mayan (K'ichean and Mamean), and is found also in Q'anjob'alan and in a few other languages (e.g., Zinacantec dialect of Tsotsil, Yucatec Mayan) (see Stiebels 2006 for a survey). The examples in (35)-(36) from Jakaltek illustrate this morphosyntax. (35) shows a simple transitive clause without focus. The verb is transitive and agrees with A through the usual ergative (Set A) agreement.

(35) Jakaltek

x-[y]-il naj ix.
CP-A3-see PRON.3SG.M PRON.3SG.F

'he saw her' (Craig 1977: 211)

(36a,b) show focus of O and A, respectively. In (36a), the verb form does not change, but in (36b), it obligatorily carries the suffix -*ni* (historically derived from -*n* plus the intransitive status suffix -*i*). This suffix induces detransitivization of the verb and loss of the ergative (Set A) marker.

17

(36) Jakaltek

    a. *Ha' ix$_F$*   *x-[y]-il*   *naj.*
       FOC PRON.3SG.F CP-A3-see PRON.3SG.M
       'It was HER who he saw.'

    b. *Ha' naj$_F$*   *x-'il-ni*   *ix.*
       FOC PRON.3SG.M CP-see-AF PRON.3SG.F
       'It was HIM who saw her.' (Craig 1977: 212-3)

Although this morphosyntax is often called AGENT FOCUS (AF), it is not peculiar to focus of A per se. It is associated with a syntactic operation of fronting ('extraction') which is common to interrogatives, relative clauses, focus, and certain indefinite constructions. There is a great deal of variation in the details of AF constructions across the family – their morphology, distribution, and agreement patterns (see Stiebels (2006) and Coon et al. (2014) for recent perspectives and Aissen (2017) for discussion). What is relevant here is that AF morphology provides visible means to distinguish preverbal focus and topic. When the preverbal constituent is A, AF morphology indicates that it is focus while its absence (usually) indicates that it is topic. We will appeal to this below.

As noted earlier, recent work on K'ichee' and Yucatec has observed a correlation between the possibility of in situ focus and the use of AF morphology under focus movement. In both languages, focus movement of A requires AF morphology.[9] Also in both languages, while in situ focus is in general possible, it is *not* possible with the subject of a transitve clause, (8). In effect, a focused A can only occur ex situ – where it triggers AF morphology; it cannot remain in situ, where it would occur without that morphology.

It is possible that the co-occurrence of these phenomena in K'ichee' and Yucatec is coincidental, i.e. that the correlation is not significant. However Velleman (2014) presents convincing evidence that the correlation is genuine. She observes that there are 'exceptional' contexts in K'ichee' where agent extraction does *not* permit agent focus morphology and shows that in the same contexts, a focused agent may remain in situ. Two such contexts are reflexive and extended reflexive clauses (Mondloch, 1981). (37a,b) show that the agent is extracted in reflexive and extended reflexive clauses without special morphology (Velleman 2014:153, 155).

(37)   a. *ri*   *alah [ri*   *x-u-xi'-j*   *r-iib']*
       DET boy DET CP-A3SG-scare-SS A3SG-RR
       'the boy who scared himself'

    b. *Jachin x-u-sok*   *r-akan?*
       who   CP-A3SG-hurt A3SG-leg
       'Who$_i$ hurt his$_i$ leg?

---

[9]Yucatec does not have an AF morpheme per se. The AF construction is characterized by the absence of otherwise expected morphology (the Set A marker and the status suffix).

(38)-(39) show that the agent in a reflexive or extended reflexive clause may be focused in situ (Velleman 2014:226).

(38) a. Who got scared?

  b. *Aree x-u-xi'-j   r-iib'   le   a   Xwaan$_F$.*
    FOC CP-A3SG-scare-SS A3SG-RR DET CLF Juan

    'JUAN got scared (lit. 'scared himself').'

(39) a. Who hurt his leg?

  b. *X-u-sok   r-aqan   le   a   Xwaan$_F$.*
    CP-A3SG-hurt A3SG-leg DET CLF Juan

    'JUAN hurt his leg.'

Following the same reasoning, Velleman suggests that in those languages which do not require (or use) special AF morphology, the agent may be focused in situ. Tseltal, for example, does not use special morphology when a focused agent is displaced, (40a), and it permits a focused agent to remain in situ, (40b) (Polian 2013: 775, 773).

(40) a. *Ants$_F$=me ya s-pas.*
    woman=CL ICP A3-do

    'It's A WOMAN who does it (it is women's work).'

  b. *Ja'=me ya x-chon te   k'ankujk'=e$_F$.*
    FOC=CL ICP A3-sell DET Cancuc=ENC

    'It was THE CANCUQUEROS who sold it.'

The suggestion that there is a link between constraints on AF morphology and constraints on in situ focus – both within individual languages and across the family – is very interesting and calls for explanation. Velleman (2014) discusses several possible accounts and surely more will be forthcoming. On the empirical side, the generalization should be tested, controlling carefully for contexts which license in situ focus and for the distinction between information focus and contrastive focus.

4.4.2 Oblique focus

A number of Eastern Mayan languages register the focus (more generally, the extraction) of oblique constituents, especially instrumentals. In the K'ichean languages as well as in Ixil (Mamean), the applicative suffix *-b'e* is associated with extraction of instruments. Interestingly, this morphosyntax *only* occurs under extraction of instruments, parallel to the use of AF morphology *only* when A is extracted.[10] I offer just one example here from Tz'utujil (Dayley 1985: 355).

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[10]The cognate dative-benefactive applicative in the Tseltalan languages is not restricted in this way.

(41) *Machat$_F$ x-a-choy-b'e-j*   *chee'.*
      machete CP-A2SG-cut-APPL-SS tree
      'It was A MACHETE that you cut wood with.'

The instrumental applicative in Eastern Mayan is unstable, as it shows significant varia-
tion with respect to both its properties (e.g. whether it is actually an applicative and if so,
which object is primary, which secondary) and its distribution. Norman (1978) discusses
differences among several K'ichean languages; Larsen (1988) documents dialect variation
in Kichee'; Dayley (1985) documents multiple constructions in Tzutujil used to extract in-
struments, only one of which is the applicative. Ayres (1983) discusses analogous variation
in Ixil (Mamean).

4.5 Conclusion

The realization of FOCUS in Mayan involves morphological devices (e.g. special morphology
for AGENT and OBLIQUE focus), dedicated syntactic positions for moved foci, and lexical
resources (focus markers like *ja*). Factors which determine how focus is realized, i.e.,
the distribution of these various grammatical devices, include the pragmatic distinction
between *information focus* and *contrastive focus*, the category of the focus (e.g., DP vs.
NP vs. PP), and the grammatical relation of the focus (e.g., A (external argument) vs. S
and O). There is a good deal of variation in how these factors play out in the grammars of
individual languages and many details remain to be filled in.

A notable gap is our knowledge is the extent to which intonation marks focus in Mayan,
whether new information focus or contrastive focus. Relevant work exists for Yucatec Maya,
where the consensus so far is that intonation plays no role (see Kügler et al. 2007 among
others). On the other hand, Baird (2014) concludes that it plays some role in the speech
of bilingual K'ichee'-Spanish speakers, at least in some dialects. Clearly there is a great
need for work on this question in the various languages.

5 Topic

5.1 Introduction

Although the notions *topic* and *focus* are often taken to be complementary, they belong to
different dimensions of information structure. In the context of the question in (42a), the
reply in (42b) can be partitioned along two different dimensions (the topic is marked with
T (subscript).

(42) a. Where is Mary driving tomorrow?
      b. Mary$_T$ is driving to Prague$_F$ tomorrow.
          i. Focus-Background: Mary is driving to PRAGUE$_F$ tomorrow.
          ii. Topic-Comment: Mary$_T$ [is driving to Prague tomorrow]$_{COMMENT}$.

From the perspective of *informativity*, 'Prague' in (42b) is the point of greatest informativity, as the rest of the sentence is presupposed, i.e. the proposition *Mary is going somewhere tomorrow* is already in the common ground. This corresponds to a partitioning of the sentence into FOCUS and BACKGROUND, (42b.i). The other dimension has to do with *the entity being talked about* and what is said about that entity. On this dimension, (42b.ii), the answer is partitioned into TOPIC (Mary) and COMMENT (the rest of the sentence). There are relations between these two partitionings: the FOCUS is part of the COMMENT and the TOPIC is part of the BACKGROUND. But the two dimensions are distinct.

It is clear enough that Mary is the topic in (42b). But anyone who has ever tried to identify the topic in sentences of naturally occuring speech knows how difficult this can be. Various properties correlate statistically with topic-hood and are therefore helpful in identifying the topic: definiteness (because topics are usually already part of the common ground), human (because we tend to talk about humans), persistence (because we tend to continue to talk about the same entity). Further, because a continuing topic (one which is identical to the topic of the immediately preceding discourse) is highly accessible, continuing topics tend to be realized by a minimal referential expression, i.e. unstressed pronouns or ∅ in languages where unstressed pronouns are not pronounced. And finally, certain grammatical functions are associated with topicality, in particular subject (within a clause) and possessor (within a nominal). Some of these correlates have been used as the basis of definitions of topic (or equivalent notions), e.g. in the work of Givón (1983), also in Centering Theory (Walker et al., 1998; Beaver, 2004) and in experimental work on Mayan (Verhoeven and Skopeteas, 2015). However, *none* of these properties provides a sufficient or necessary condition for topic. Hence identification of the topic is made much easier if the language has some formal signal of TOPIC–COMMENT structure, morphological or syntactic.

Fortunately, for our purposes, many Mayan languages do have special syntax associated with this partition, one in which the topic precedes the comment. Since most Mayan languages are predicate-initial, preverbal positioning of an argument (or adjunct) may be a sign then that it is a topic. A complicating factor is that displaced foci also occur in a preverbal position (§4.2). However, there are various grammatical differences which distinguish topics and foci and these, along with discourse context, usually allow unambiguous identification.

Although a number of Mayan languages have preverbal topic constructions, the constructions are not uniform. In Aissen 1992, I identified two distinct constructions, differentiated primarily by their structural properties, calling them 'internal' and 'external'. This account is discussed in §5.2.[11] I also speculated that the two constructions have different pragmatic functions, with one specialized for signaling a topic switch and one for continuing topics. Although there is some truth in this, this picture is incomplete, §5.3.

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[11]See Can Pixabaj and England (2011) and Gutiérrez-Bravo (2011) for discussion of issues which arise in extending the account to K'ichee' and Yucatec.

I will suggest here that the two types differ in their core functions: internal topics are fundamentally 'aboutness' topics which furthermore require a predicate-argument relation between the topic and comment, while external topics are fundamentally 'frame-setting'. This approach takes the notion 'topic' to be a *prototype*, with different topic constructions conforming to various degrees to the prototype (Jacobs, 2001). Jacobs proposes four topic properties: separation (structural separation of topic and comment) 'aboutness' (also called 'addressation'), predication (the requirement that the topic function as an argument of the predicate (=comment), and frame-setting (see below). While internal and external topics share the first property (separation), they have different relations to the other three. §5.4 closes with a discussion of CONTRASTIVE TOPICS. which are related in interesting ways to topics and foci.

5.2 External and internal topic: Syntax

Most Mayan languages are assumed to have a 'basic' or underlying verb-initial word order. However many have an alternative order in which one constituent, generally definite and often the subject, precedes the verb. This alternation is illustrated for Tsotsil by (43)-(44). (43) introduces a man into the discourse context. The noun phrase *jun vinik* is indefinite and occurs in postverbal position. This is, in fact, the only possible position for (non-partitive) indefinite subjects.

(43) TSOTSIL

    I-vay   la ta be   jun vinik ta yak'ol Bik'it Nich.
    CP-sleep CL P path a   man P above B.   N.

    'A man slept by the trail above Bik'it Nich.' (Laughlin 1977: 54)

(44) (from a different narrative) also contains reference to a man. In this case, the man had been introduced into the discourse several sentences earlier (as a post-verbal indefinite). After several sentences about other protagonists, the narrative turns back to the man with (44). The referring expression *ti vinik* is now preverbal:

(44) TSOTSIL

    A   ti   vinik un=e_T ‖ mu to ox la x-'och   svayel   un.
    TOP DET man PAR=ENC   NEG CL CL CL ASP-enter his.sleep PAR

    'The man, he hadn't fallen asleep.' (Laughlin 1977: 49)

The preverbal nominal has many of the properties associated with topics: it is definite, it is human-referring, and the referent persists into subsequent discourse. Hence I assume this is a topic construction and that *ti vinik* in (44) is a topic. Note that in addition to their preverbal position, topics in Tsotsil may be 'flagged' by the particle *a*, as in (44).

Tz'utujil also has alternations in word order which are determined by discourse context. Dayley (1985) characterizes PREDICATE-SUBJECT order as the more basic, used always '(i) when the existence of the subject is not presupposed and [ii] when the subject is presupposed but is being introduced into the conversation' [p. 302]. Under both conditions, the referent is not part of the CG.

(45) TZ'UTUJIL

    a. *X-pi   jun aachi Xelaju'.*
       CP-come one man Quetzaltenango
       'A man came from Quetzaltenango.'

    b. *Aj-nawala'   ja   w-xaayiil.*
       one.of-Nahualá DET A1SG-wife
       'My wife is from Nahualá.' (Dayley 1985:302)

On the other hand, intransitive clauses show SUBJECT-PREDICATE order 'when the subject is the topic of the discourse in general' and 'generally, when the subject is given information' [p. 302], i.e. when the subject *is* part of the CG.

(46) TZ'UTUJIL

Ja   nuu-chaaq'$_T$ x-ajnamaj-i ja   toq   laj x-ch'e\<j\>y-i.
DET A1SG-brother CP-flee-SS   DET when IRR CP-hit\<PSV\>–SS

'My brother fled when he was going to be beaten.' (Dayley 1985:303)

The construction in (46) clearly also qualifies as a topic construction.

In both Tsotsil and Tz'utujil, the topic is structurally separated from the comment, one of the properties that Jacobs associates with topics. Further, in both languages, the topic occurs high in the clause and therefore precedes sentential operators like negation (for Tsotsil, see (44)).

(47) Tz'utujil

Ja   ch'ooy$_T$ ma x-uu-tij   ta ja kéeso.
DET rat   NEG CP-A3SG-eat IRR DET cheese

'The rat didn't eat the cheese.' (Dayley 1985:321)

(See Aissen (1992) for evidence that topics of both types also precede the polar interrogative marker.)

Despite these similarities (a preverbal, structurally high position), there are significant structural differences between Tsotsil and Tz'utujil topics which concern the tightness of the connection between topic and comment. Tsotsil topics are only loosely connected to what follows, while Tz'utujil topics are much more tightly integrated. I will refer to these two types then as 'external' and 'internal' topics, anticipating the structural distinction

drawn below. It appears that Mayan languages generally use either the external or the internal type as their 'basic' topic construction. Languages with an external construction include, in addition to Tsotsil, Tseltal, Tojolab'al, Q'anjob'al, Jakaltek, and Yucatec. Languages with an internal construction include Tz'utujil, K'ichee', Q'eqchi', and probably other K'ichean languages.

The hallmark of an external topic then is its loose connection to the comment. Prosodically the external topic is separated from what follows by an intonational phrase break (*iP*), represented here by ‖. For Tsotsil, evidence of this boundary are the enclitics -*un* and -*e*, which occur only at the right edge of an *iP* (Aissen, 1992), see (44). This break can be (and often is) marked by an audible pause, similar to the pause between utterances, and the right edge of the topic is marked by a boundary tone. For Jakaltek, parallel evidence comes from the distribution of the exclusive clitic *an* (EXCL) which marks the presence of a 1st person singular or plural exclusive and occurs only at the right edge of an *iP*, as in (48) (Day, 1973; Craig, 1977; Aissen, 1992, 2000).

(48) Jakaltek

W-uxtaj$_i$ an$_T$ ‖ s-loq   ho'$_i$ no' cheh k'ej'inh tu'.
A1SG-brother EXCL   A3SG-buy PRON CLF horse black   DEM

'My brother, he bought that black horse.' (Craig 1977:280)

The syntactic connection between the external topic and the following 'comment' is also loose. For one thing, the topic need not correspond to any argument position in the following clause (though of course it can). That is, the external topic can be a 'hanging topic'.

(49) Yucatec

Ch'íich-o'b=e'$_T$ chen x-kòok'-o'b   u   k'ahóol.
bird-PL=ENC   only F-nightingale-PL A3 know

'As concerns birds, he only knows nightingales.' (Skopeteas and Verhoeven 2009)

(50) Tseltal

Te   beel   Jobel=e$_T$, a-kuch-oj   te   a-may=e.
DET travel S.C.=ENC A2-carry-PF DET A2-tobacco=ENC

'For the trip to San Cristobal, you carried your tobacco.' (Polian 2013:770)

And even when it is coreferential with an argument in the following clause, that argument can be expressed by overt lexical material. This is particularly clear in Jakaltek (and probably other Q'anjob'alan languages), which has overt pronouns and where the topic *must* be resumed by a (classifier-derived) pronoun if one exists for the referent in question (Craig

1977: 12, Datz 1980: 149ff). In (48), that pronoun is *ho'*. The presence of the pronoun suggests that the external topic does not *move* to its surface position, as movement usually leaves a gap. The relation between topic and a coreferential element in the 'comment' appears instead to be like the anaphoric relation that holds between a pronoun and its antecedent. Both prosodically and syntactically then, the relation between the external topic and comment resembles that of closely linked but independent sentences.

The topics of Tz'utujil are more tightly connected to the clause that follows than the external topics of Tsotsil and Jakaltek. On the prosodic side, Tz'utujil topics do not occasion an iP break, though it is possible that the topic corresponds to a smaller prosodic constituent (e.g., a phonological phrase); this calls for further investigation.[12] On the syntactic side, the topic must fill a variable in the argument structure associated with the topic, i.e. Tz'utujil does not permit hanging topics:

(51) * *Ja   frúuta$_T$ qas ki'   ja   máango.*
       DET fruit   very sweet DET mango

 'As for fruit, mango is very sweet.' {ELIC}

Structurally then, internal and external topics are both separated from the comment (i.e. the pragmatic partition is paralleled by a structural one), but the nature of the separation is different. In Aissen (1992), I analyzed the structure of internal and external topic, as well as focus, in terms of the same basic clause structure presented in Chapter 10 [*Complement clauses*], one which contains (at least) two functional projections above VP. I proposed that the focus occupies the Specifier of IP, and that the internal topic of Tz'utujil occupies Specifier of CP. External topics, on the other hand, are adjoined to the CP node. Intervening between both topic positions and the focus position are positions for adverbs and for negation (these are probably distinct, but are not distinguished here).

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[12]Can Pixabaj and England (2011) report that K'ichee' topics, which otherwise resemble those of Tz'utujil, are separated in main clauses (but not in embedded ones) by a pause from what follows. Whether this pause marks an iP break, or a smaller prosodic boundary, is unclear at present. It is not uncommon for a preverbal subject to be separated by a prosodic break from the following predicate, a break usually associated with a phonological phrase, not an iP.
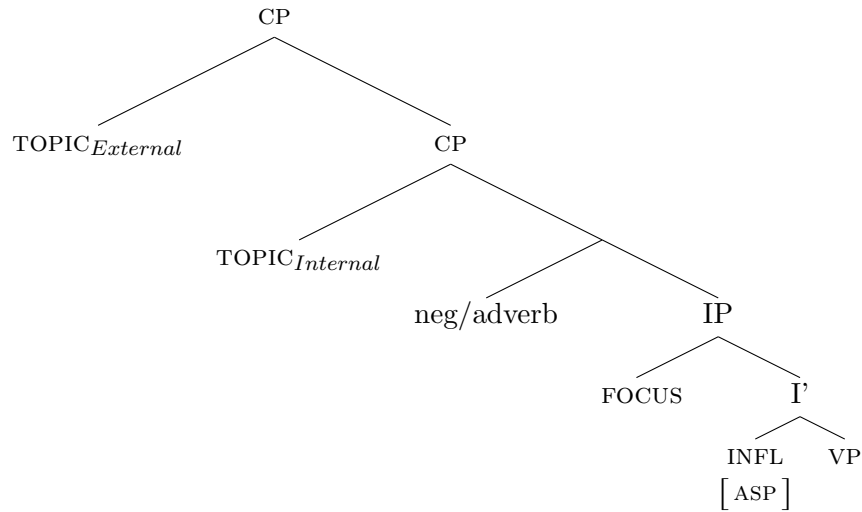
Figure 11.2: Structural positions for topic and focus in Mayan

Figure 11.2 shows both topics sitting in structurally high positions and accounts for their 'preverbal' position as well as for their position relative to negation, (44), (47). It also predicts, correctly, that topics of either type will precede the focus.

(52) Tsotsil (external topic)

> *A   ti   prove tseb=e$_T$ sovra$_F$ ch-'ak'-b-at.*
> TOP DET poor girl-ENC leftover ICP-give-APPL-PSV

'It was LEFTOVERS that the poor girl was given.' (Laughlin 1977: 204)

(53) Tz'utujil (internal topic)
  a. *Ja   tzyaq$_T$ ch'ooyaa'$_F$ x-ee-tij-ow-i.*
     DET clothes rats   CP-A3PL-eat-AF-SS
     'RATS were the ones who ate the clothes.' (Dayley 1985:309)
  b. *Ja   gáarsa$_T$ cheqe ch'uu'$_F$ n-ee-ruu-tij.*
     DET heron   only fish   ICP-B3PL-A3SG-eat
     'It's only FISH that the heron eats.' (Dayley 1985:308)

Note that in (53a) the subject is focus (with an AF verb), while in (53b), it is topic (no AF verb).

At the same time, Figure 11.2 positions internal and external topics differently, so provides a way to account for the differences noted above. Internal topics are structurally more integrated into the clause than are external topics, and this is reflected both semantically and prosodically. It also accounts for further differences to be discussed below. Before

turning to those differences, there is one question we should address, namely whether the position associated with the internal topic in (46)-(47) and (53) is really a topic position, or whether it is simply a preverbal *subject* position. In Tz'utujil, it is clear that non-subjects *can* occupy the same position (Aissen, 1999). Non-subject topics arise especially in inactive intransitive clauses, when the *possessor* of the subject functions as topic. Such examples occur most frequently with the copula verb *k'o(oli)*, which functions both as an existential and as a verb of possession. In the following examples, the *grammatical* subject is the postverbal noun phrase (the possessum). The possessor of the grammatical subject occurs in the preverbal topic position. Agreement in (54a,b) makes the *grammatical* relations clear: the verb agrees with its subject (the possessum); the preverbal topic is indexed as possessor on the possessum.

(54)   Tz'utujil

    a.   *Ja   winaq$_T$ k'o   ki-paq.*
        DET people EXIST A3PL-money

        'The people have money.' (lit: the people's money exists)

    b.   *Inin$_T$ ee   k'o   w-ach'aalaal   pa taq'aaj.*
        1SG   B3PL EXIST A1SG-relatives on coast

        'I have relatives on the coast.' (lit: relatives of mine exist on the coast)

If the preverbal possessor in (54a,b) occupies the same position as the preverbal subject in (46)-(47) and (53a), then it should precede focus as well as negation. Indeed, it does:

(55)   a.   *Ja   n-ata'$_T$ xa   r-ek'$_F$ ee   k'ooli.*
        DET A1SG-father only A3SG-chicken B3PL EXIST

        'My father has only chickens.'

    b.   *Inin$_T$ ma   k'o   ta   n-paq.*
        1SG   NEG EXIST IRR A1SG-money

        'I don't have any money.'

Table 11.4 summarizes the differences between the two types of topic discussed to this point.

	Internal topic	External topic
Prosody	no iP break	iP break
Hanging topic	no	yes
Resumption	no	yes (where applicable)

Table 11.4: Internal vs. external topic

5.3   Internal and external topic: Pragmatics

Internal topics have the property which has been called 'aboutness': the comment must be 'about' the topic in the sense that it adds a proposition to the CG which increases what we know about the topic. An influential conception of 'aboutness' topic was introduced in Reinhart (1981) (= Reinhart (1982)). Reinhart proposed that new information is not entered into the CG in an unstructured manner, but is associated with particular entities which are (usually) already in the CG. She analogized these entities to file-cards. A proposition which is *about* an entity is entered on the file-card corresponding to that entity. The 'topic' then functions as an instruction to the hearer, directing him or her to the file-card which should be updated; it is a kind of 'address' at which the new information is to be located. A core function associated then with the internal topic of Tz'utujil is addressation. Furthermore, it is not enough that the comment be 'about' the topic: the topic must correspond to an argument in the comment (=predicate), i.e. the internal topic cannot be a hanging topic. Thus, a second core function of the internal topic construction of Tz'utujil is predication (see the related analysis of Tz'utujil topics in terms of their logical subject-predicate relation (Aissen, 1999)).

Although the external topic construction can involve predication, the fact that it permits hanging topics shows that this is not required. Whether it always involves adressation is unclear; determing this requires a more careful charcterization of that relation than is possible here. However, a core function of this construction is what has been called 'frame-setting' (Jacobs, 2001) or 'scene-setting': 'a 'scene-setting' topic provides a spatial, temporal or individual framework within which the main predication holds' (Chafe, 1976, pp. 50-51). The same position which is reserved for 'topics' in languages with external topics can also be filled by a variety of adverbial phrases and clauses. (56) from Tsotsil contains two 'scene-setting' phrases, both temporal, while (57), from Tseltal, shows a conditional clause. These provide restrictions on the 'worlds' within which the truth of the comment is evaluated, restricting the assertion in (56) to the time of the Flood, and that in (57) to hypothetical worlds in which certain events occur. See Datz (1980:136) and Bohnemeyer (2002:135ff) for the same point in Jakaltek and Yucatec, two other languages with external topics.

(56)   Tsotsil

[A   ti   vo'ne la=e]$_T$,   [a   la   ti   k'alal i-noj   li   balamil=e]$_T$, ...
TOP DET ago   CL=ENC TOP CL DET when CP-fill DET earth=ENC

'Long ago, when the world was flooded, . . . ' (Laughlin 1977:254)

(57)   Tseltal

[Te me la=to aw-ich'   tel   a-chon molino le'=to=e]$_T$,   ma
DET if   CP-CL A2-bring DIR A2-sell mill   here=CL=ENC NEG

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x-ch'am=ix.
ICP-be.received=CL

'If you still brought mills to sell here, they would not be sold now.' (Polian 2013: 772)

These examples show again that predication is not required, and perhaps not addressation eiither. When the topic refers to an individual, the construction generally does involve both predication and 'aboutnesss' (addressation), but these are not necessary properties of the construction.

It is hardly surprising that the syntactic and pragmatic properties of internal and external topics align as they do. The syntactic position for internal topics is an argument position in the sense that it is filled by elements which must be linked to arguments in the clause either by movement or binding. The position occupied by external topics is, in contrast, a position for adjuncts and adverbial modifiers.

With this in place, we can return to the question of how internal and external topic relate to the functions of signalling a change in topic or a continuing topic. External topics are the primary resource in languages like Tsotsil and Jakaltek to indicate a topic shift, i.e. to signal that the topic of the current sentence is different from the topic of the immediately preceding discourse (on Jakaltek, see Datz 1980:149ff). The larger context of (44) (from Laughlin 1977:49) will illustrate. It occurs in a narrative about a wedding night. The man and woman are introduced at the outset, then the narrative describes the sleeping arrangements which included the girl's parents and a number of drunk petitioners (58a). The narrative turns back to the groom with (58b), and then continues as in (58c), where the continuing topic is realized as a null pronoun.

(58)   a. There was a Chamulan. He had just been married. It was on a day like today. They entered the house, it seems, because those people don't have weddings. They marry at the house entrance. Then they went. They went to bed. And they joined each other in bed. The [groom's] father and mother slept there together with them still. The petitioners got drunk – the relatives of the boy's parents. The woman's relatives slept there still too, because it was the first night that they accompanied each other.

   b. *A   ti   vinik un=e_T,   ‖ mu   to ox la x-'och   svayel   un.*
      TOP DET man PAR=ENC   NEG CL CL CL ASP-enter his.sleep PAR

      'The man, he hadn't fallen asleep.'

   c. He [∅] went and slipped inside the skirt with that wife of his.

However, indicating a change in topic is not an exclusive property of external topics. In languages like Tz'utujil and K'iche', the *internal* topic construction is used to signal a topic switch. The following excerpt, from a K'iche' narrative (Norman 1976: 40-41), involves two protagonists, a man and an alligator. Both are introduced as indefinites

in post-verbal position (59a, c). The man is the initial topic (59b), but as the narative continues, there are three topic switches (lines d, g, and h). Each switch is marked by fronting the new topic into preverbal position. In each case, the local topic persists (albeit briefly) as topic into the subsequent sentence, where it is signalled by a null pronoun ($\varnothing$). Only the lines with switch topics are given in the original K'ichee'. ('S' here covers both intransitive S and transitive A; material corresponding to S and V is italicized.)

(59) a. [VS] It is said that *there was a man$_i$* who left here . . .

   b. [VS] It is said that *that man$_i$ was taking a walk* beside the ocean.

   c. [VS] Suddently (there) *came an alligator$_j$* out of the ocean.

   d. [SV] *Rii ayiin   x-u-biq'   b'i* rii   jun achih.
      DET alligator CP-A3SG-swallow DIR DET one man

      'The alligator$_j$ swallowed the one man.'

   e. [V] *He$_j$ [∅] returned* into the ocean,

   f. [V] *he$_j$ [∅] went down* to the bottom of the ocean.

   g. [SV] *Rii   achih ka-r-il-oh   . . .*
      DET man   ICP-A3SG-see-SS

      'The man$_i$ sees [that it got very dark inside the alligator. "Where am I?",
      he$_i$ [∅] says].'

   h. [SV] *Raayiin   x-el   chi apan chuchi' lee   maar . . .*
      DET.alligator CP-go.out P   DIR   its.edge DET ocean

      'The alligator$_j$ went out at the edge of the ocean . . .'

With respect to indicating a *continuing* topic, the situation is somewhat different. The signal of a continuing topic is usually a minimal referring expression (Givón, 1983; Ariel, 1990; Gundel et al., 1993). In most Mayan languages, this will be a null pronominal, as in (59) from K'ichee' and (58c) from Tsotsil. There is no reason to think that a continuing topic is expressed through the external topic construction, as adjoined topics are entirely optional. On the other hand, it is plausible that the null pronoun associated with a continuing topic might well occupy the internal topic position. This is the intuition of Dayley (1985) who regards 'sentences with V-P order without an overt agent noun phrase [as] alternate attenuated forms of A-V-P sentences' [p. 306]). Translated into a framework which recognizes null pronouns as syntactically potent elements, this would imply that examples like (60b) have the same structure as (60a), but with the position of the internal topic occupied by a phonologically null pronoun which refers to a continuing topic.

(60) Tz'utujil

   a. *Ja   ch'ooyaa'$_T$ x-kee-tij   ja   tzyaq.*
      DET rats   CP-A3PL-eat DET clothes

      'The rats ate the clothes.'

b. *∅ₜ   x-kee-tij   ja   tzyaq.*
PRON CP-A3PL-eat DET clothes

'They ate the clothes.' (Dayley 1985: 304, 306)

In conclusion, the internal and external topic constructions overlap somewhat in their functions: both provide the basic mechanism for indicating a change in topic. However, while the internal topic construction may be involved in signalling a continuing topic, there is no reason to think that the external topic plays a similar role. The more basic distinction between internal and external topic can be characterized in terms of the properties that Jacobs (2001) associates with the prototypical topics. While both involve a structural separation between topic and comment, internal topics obligatorily involve PREDICATION and ABOUTNESS, while external topics obligatorily involve FRAME-SETTING. When the external topic refers to an individual, it will usually involve aboutness and predication, indicated here as optional properties.

	Internal topic	*External topic*
Separation	✓	✓
Predication	✓	(✓)
Addressation	✓	(✓)
Frame-setting		✓

Table 11.5: Properties of internal and external topics in Mayan

5.4 Contrastive topic

A further function associated with both external and internal topics in Mayan is presentation of a CONTRASTIVE TOPIC. To illustrate this relation, consider the excerpt in (61) from Tsotsil. The first clause provides the context; the second and third each contains a contrastive topic.

(61) a. 'There was a couple, recently married.'

  b. *[A   ti   vinik=e]_{CT} tax-lok'   ech'el, tax-bat, tax-xanav.*
     TOP DET man=ENC   ICP-leave going   ICP-go   ICP-travel

     'As for the man_{CT}, he left, he went, he travelled.'

  c. *[A   ti   ants=e]_{CT}   jun yo'on tax-kom.*
     TOP DET woman=ENC one heart ICP-stay

     'As for the woman_{CT}, she stayed home happy.' (Laughlin 1977: 67)

The phrases corresponding to 'the man' and 'the woman' are topics in their respective utterances, but they also contrast with one another. In characterizing CONTRASTIVE TOPIC, I follow Büring (2003) who develops an account in terms of *questions*. In the context of this example, (61a) raises an implicit question: *what about the couple?* This in turn raises

sub-questions: *what about the man, what happened to him/what did he do?* and *what about the woman?* The answer proceeds sub-question by sub-question, first considering the man (61b) and then the woman (61c). Each response consists of a pair, associating with each member of the couple what he or she did. The members of the set that organize the reply (the man, the woman) are CONTRASTIVE TOPICS, the other value is the focus. In these examples, the focus corresponds to the entire predicate phrase.

Contrastive topics also occur with narrow focus, as in (62). Here an explicit question induces the construction, asking of a group which piece of chicken each member wants to eat.

(62) Chamulan Tsotsil

a. *Bu ch-a-k'an   ch-a-ti'-ik=e?*
    Q   ICP-A2-want ICP-A2-eat-PL=ENC
    'Which [piece of chicken] do you (pl) want to eat?'

b. *Vu'un=e_{CT} ja' ta j-k'an   j-ti'   li'=e_F,*
    1SG=ENC   FOC ICP A1-want A1-eat DEM=ENC
    'I$_{CT}$ want to eat THIS.'

c. *vo'ot=e_{CT} chika ja' ch-a-ti'   li'=e_F,*
    2SG=ENC girl FOC ICP-A2-eat DEM=ENC
    'You$_{CT}$, girl, are going to eat THIS.'

d. *Marta=e_{ct} ja' li'=e_F.*
    Marta=ENC FOC DEM=ENC
    'Martha$_{CT}$, THIS.' {TEXT}

The answer is broken down, person by person: me, you, and a third person, Martha.

The contrastive topics occur in external topic position (with the final enclitic $=e$ that indicates the edge of an intonational phrase); the focus within each answer occurs *in situ* associated with the focus particle *ja'* (see §4.2) (deictic gestures accompany this utterance).

Contrastive topics share properties both with foci and with (non-contrastive) topics. They are like contrastive foci in that they evoke a set of alternatives. But they are like aboutness topics in that they organize the reply, specifying who the information in the comment is about.

In languages with an internal topic construction, contrastive topics can be realized as internal. In their discussion of K'ichee' topics, Can Pixabaj and England (2011) cite (63).

(63) a. *Ri al Ixchel$_{CT}$ [x-u-tzak   kinaq']$_F$,*
         DET CLF Ixchel   CP-A3SG-cook beans
         'Ixchel$_{CT}$ COOKED BEANS,'

     b. *ri al Ixkik'$_{CT}$, [x-u-k'ili-j   iik]$_F$,*
         DET CLF Ixkik'   CP-A3SG-toast-SS chile
         'Ixkik'$_{CT}$ TOASTED CHILIS,'

c. *are   k'u ri   al   Nikte'$_{CT}$, [x-u-lej   ri   wa]$_F$.*
   EMPH PAR DET CLF Nikte'   CP-A3SG-make.tortilla DET tortilla
   'while Nikte'$_{CT}$ MADE TORTILLAS.'

The subject of each clause is a contrastive topic, with the entire predicate phrase being the associated focus. Like other topics in K'ichee', the contrastive topic is separated from what follows by a pause (see fn. 12). According to Can Pixabaj and England, the last element in a set of contrastive topics is marked by *are k'u* (*are* is the particle (or copula) which marks DP foci in K'ichee' so is associated with contrast).

It appears then that Mayan languages tend to use their 'basic' topic construction for contrastive topics: languages with an external topic realize the contastive topic as external, while languages with an internal topic realize it as internal. Further research may reveal other options, including special options for signalling the final contrastive topic in a list.

6   Conclusion

Mayan languages – both individually and as a group – provide rich ground for the investigation of information structure. With some exceptions, work on information structure has tended to approach it from the perspective of morphology and, especially, syntax, seeking pragmatic correlates with overt categories. This is not surprising since all the key notions (given and new, topic, and focus) are marked in various ways in Mayan, implicating prosody, morphology, and syntax. The structural encoding of these relations makes it possible to identify these functions relatively easily and to investigate the way they relate linguistic form and discourse function.

But as a consequence, certain generalizations have remained obscured until recently. For example, in the area of PREFERRED ARGUMENT STRUCTURE, i.e. the mapping from GIVEN and NEW to grammatical function, the 'standard' account correlates GIVEN and NEW with the categories ABSOLUTIVE and ERGATIVE, which are of course morphologically salient in Mayan. However recent work has shown that the given-new distinction aligns not with the morphosyntax, but with notions more closely related to the semantics of volitionality and agency (§2). Similarly, most work on focus in Mayan has concerned preverbal contrastive focus, as these cases involve visible dislocation and often special (e.g. agent focus) morphology. In fact, there has been a tendency to equate 'focus' with a particular syntactic construction, rather than with a particular discourse status. Only recently has work emerged on *in situ* focus – whether involving new information focus or contrastive focus (§4). This work has revealed unexpected restrictions on *in situ* focus which relate it to the morphosyntax of moved (contrastive) focus. In the study of TOPIC constructions, most work, again, has focused on the *syntax* of topic constructions with the consequence that a study of the discourse properties of these constructions has been slighted (a notable exception is Datz (1980)). A related fact is that there has been very

little direct work on the phenomenon of CONTRASTIVE TOPIC, a relation which tends to be encoded no differently from other kinds of topic in the language (§5).

   This chapter attempts to start from the categories of information structure themselves, to explicate the relations of topic and focus sufficiently that one could ask how various types of focus and various types of topic are linguistically encoded (if indeed they are). Enough is now known about the grammars of most Mayan languages that these questions can be fruitfully addressed.

Abbreviations

A1,2,3: Set A, 1st person, etc.;   AF: agent focus;   AP: antipassive;   APPL: applicative;   ASP: aspect;   B1,2: Set B, 1st person, etc.;   CLF: classifier;   COP: copular;   CP: completive;   DAT: dative;   DEM: demonstrative;   DET: determiner;   DIR: directional;   EMPH: emphatic;   ENC: enclitic;   EXCL: exclusive;   EXIST: existential predicate;   FOC: focus;   ICP: incomplete;   INCL: inclusive;   IPFV: imperfective;   IRR: irrealis;   M: masculine;   NEG: negation;   MVT: movement;   P: preposition;   PAR: particle;   PF: perfect;   PL: plural;   POS: positional;   PROG: progressive;   PRON: pronoun;   PSV: passive;   Q: polar question particle;   RR: reflexive-reciprocal;   SG: singular;   SS: status suffix;   TOP: topic.

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